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Drawing book 8; chapter 3: Concrete fireproofing; floor cross-sections. telephone closet details

Include work order no. and floor no. if applicable elevator lobby

Roll # DB03	Doc. ID (report #, dwg. #):

Document Date: 1968-69	Document Author Name:	Author Organization: SHC&R

KEYWORDS – HIGHLIGHT ALL THAT APPLY

Level 1

Bankers Trust	Project 4	(WTC 1) North Tower	Add
Below Grade	Project 5	(WTC 2) South Tower	
Concourse	Project 6	WTC 3 - Marriot Hotel	
Electrical Substation	Project 7	WTC 4 - South Plaza Bldg.	
Liberty Plaza	Project 8	WTC 5 - North Plaza Bldg	
PATH Station	WFC 1 - Oppenhiemer Dow	WTC 6 - Customs House	
PATH Terminal	WFC 2 - Tower B	WTC 7	
Project 1	WFC 3 - American Express	WTC Complex	
Project 2	WFC 4 - Tower D	WTC Plaza	
Project 3			

Level 2

Accident analysis & risk	Fire protection	Misc. Performance Problems	(Structural)
Architectural	Fire service	News coverage	Tenant alterations
Data request	Landscaping	Police	Tenant Space
Emergency management	Management	Security	Add
Evacuation	Mech./elec.		

Level 3

1993 explosion	Cranes	Frame	Roof	Weight
A/E fitout	Criteria	Frame analysis	Safety	Weld detail
A-242	Dampers	Frequency	Schedule	Weld size
A-36	Debris	Fuel	Sculpture	Welding
A-497	Deck	Furniture layout	Security system	Wind
Aircraft impact	Deflection	Generators	Shear knuckle	Windows
Air cooled condensers	Demolition	Guidelines	Shear test	Yield strength
Analysis	Design	Gypsum board	Shear Stud	Add
Angles	(Detailing)	Hat truss	Shop drawings	~~Drawing books~~
Antenna	Doors	Human comfort	Shortening	
Artifacts	Drawings	HVAC	Slab	
Asbestos	Eastern States Steel	Index	Slurry wall	
Base plate	Egress	Inspection	Smoke control	
Beams	Elevator	Insulation	Smoke test	
Bid documents	Elevator Shaft	Job number	Spandrel beam	
Bid Invitation	Emergency communications	Joist	Specifications	
Bow tie	Equipment	L-50	Splices	
Bracing	Erection marks	Lighting	Sprinkler	
Bridging truss	Errors & Omissions	Loads	Stability	
Building code	Escalator	Maintenance	Stairways	
Calculations	Expansion joint	Marking	Standards	
Carpet	Exterior columns	Mesh reinforcement	Steel	
Ceilings	Fabrication	Mill inspection	Steel composition	
Certification	Family member	Model	Stiffness	
Chillers	Field survey	Mullion	Structural review	
Cladding	Fire alarms	Operations	Surveillance	
Collapse	(Fireproofing)	Paint	Survey	
Columns	Fire spread	Partition layout	Survivor	
Communication systems	Fire testing	Partitions	Tenant list	
Composite truss	Firetower	Photos	Tenant occupancy	
Computer output	Flag Pole	Pipes	Testing	
Computer program	Flammability	Plumbing	Tie	
Concrete	Floor	Prestressing	Tolerances	
Connections	Floor load	Probability, uncertainty	Transfer Girders	
Construction	(Floor slab)	Quality control	Triad	
Contract	Floor system	Ramp	Truss	
Core beams	Floor trusses	Reinforcing (strengthening)	Vestibule	
Core columns	Formwork	Renovation	Vibration	
Corrosion	Foundations	Repair	Walls	
Cracking	Fracture	Research & Development	Water supply	
			Weather	

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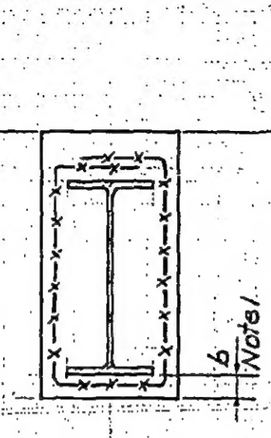
PROJECT THE WORLD TRADE CENTER | TITLE CONCRETE FIREPROOFING | DATE 3-1-68

REVISIONS
1-17-69
8-27-69

Note:
W steel beam shown.
Section may be WF, channel, or steel box beam-see Plans
(Typical all sections)



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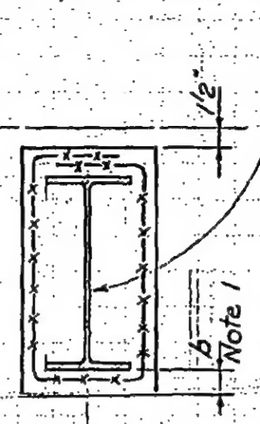

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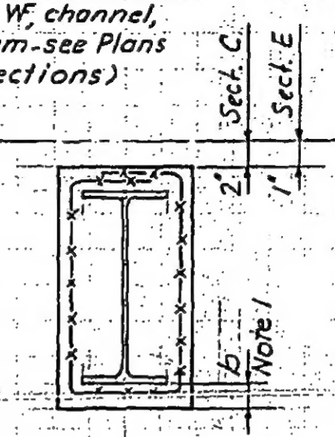

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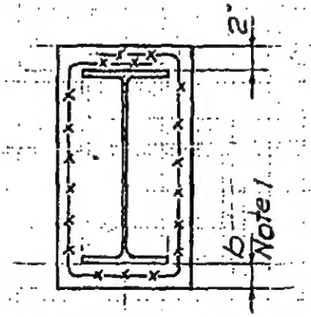
Section E-E



Section O-O

TABLE FOR DIMENSION "b"		
Location	Beam Size	Dimension b
Line 500 or 1000	16B or E	2½"
Line 600 or 900	16WF	3"
Elsewhere	Beam connected to one or more columns	3"
Elsewhere	Beams not connected to columns	2"

Where bottom cover plate exists, concrete fireproofing to be shall be 2" minimum

NOTES:
1. b=3" in Tower A cores, Floor 9 & below
b=2" min. 3" max Tower B cores Floor 1 & below
For other locations see table, this sheet.
2. See 8-AB1-4, 8-AB1-5 & 8-AB1-6 for typical details of concrete fireproofing. See 8-AB1-3 for typical slab details.

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8-AB3-2.1

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PROJECT THE WORLD TRADE CENTER | TITLE CONCRETE FIREPROOFING | DATE 3-1-68

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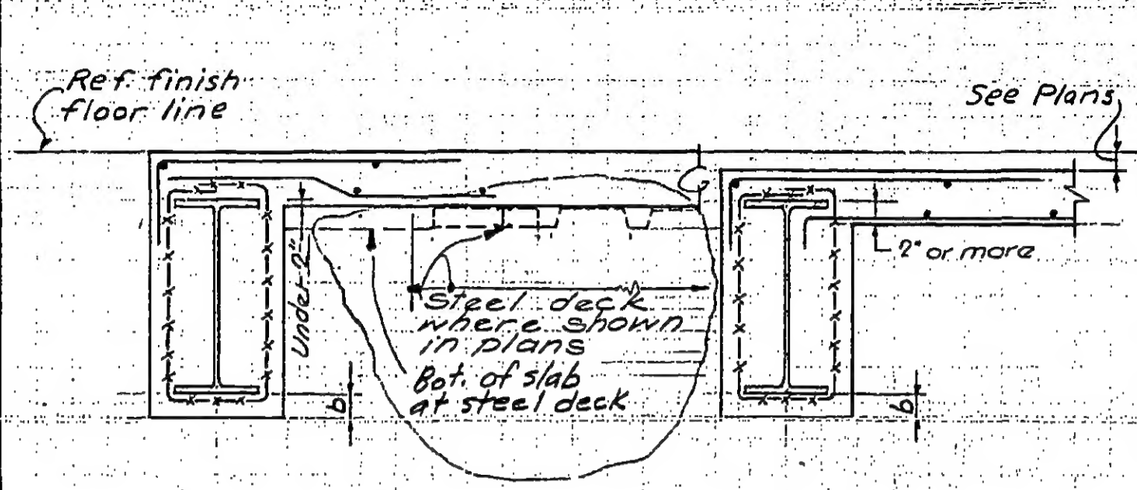
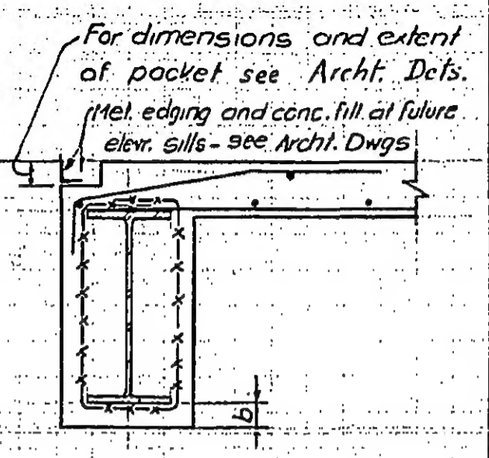
8-20-68
8-28-68



Section G-G

Section H-H



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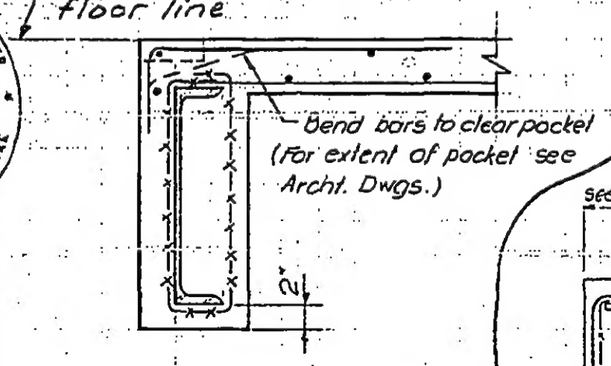

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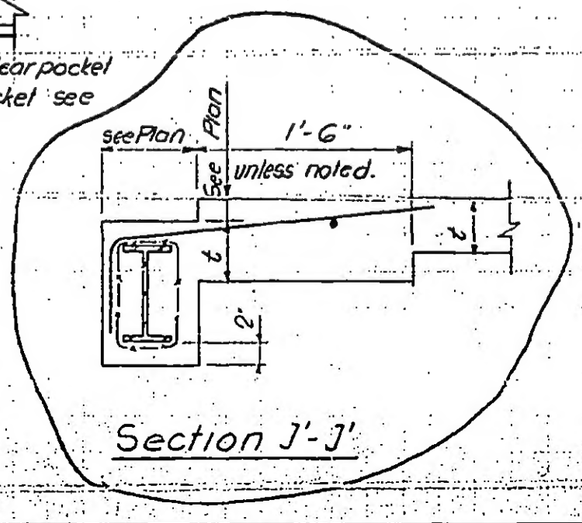

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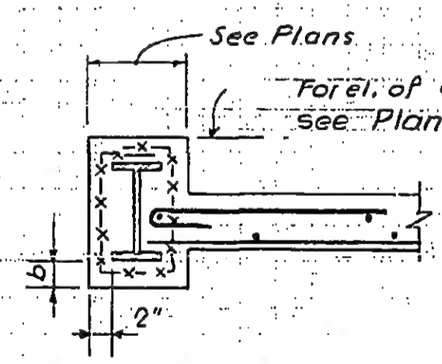

Section L-L

Note:
See Plans and 8-AB1-3 for slab reinforcing.

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8-AB3-2.2

1063-2

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PROJECT THE WORLD TRADE CENTER | TITLE CONCRETE FIREPROOFING | DATE 3-1-68

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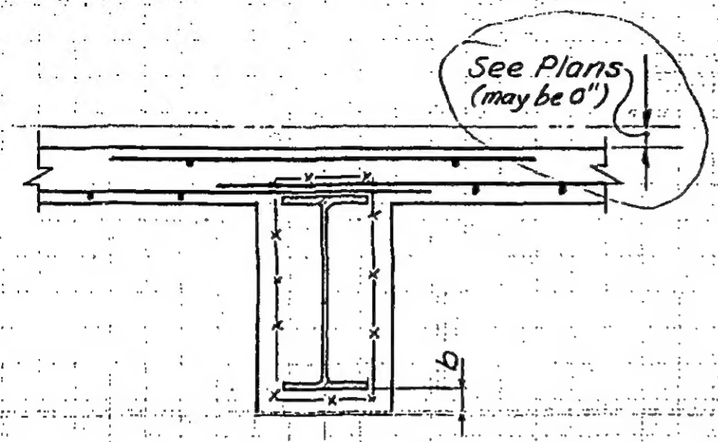

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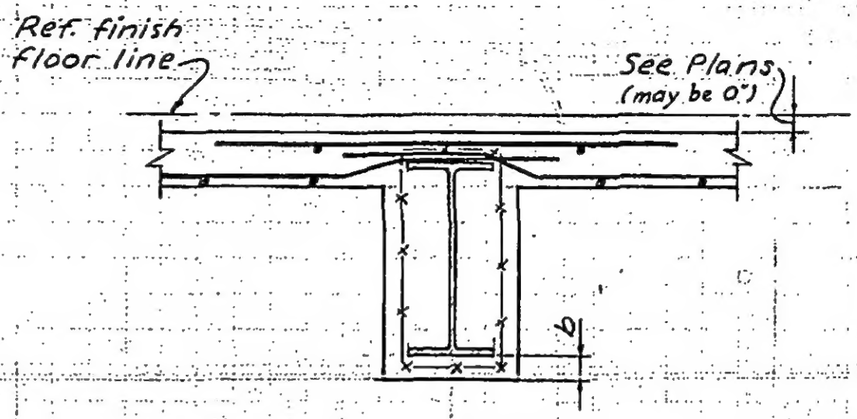

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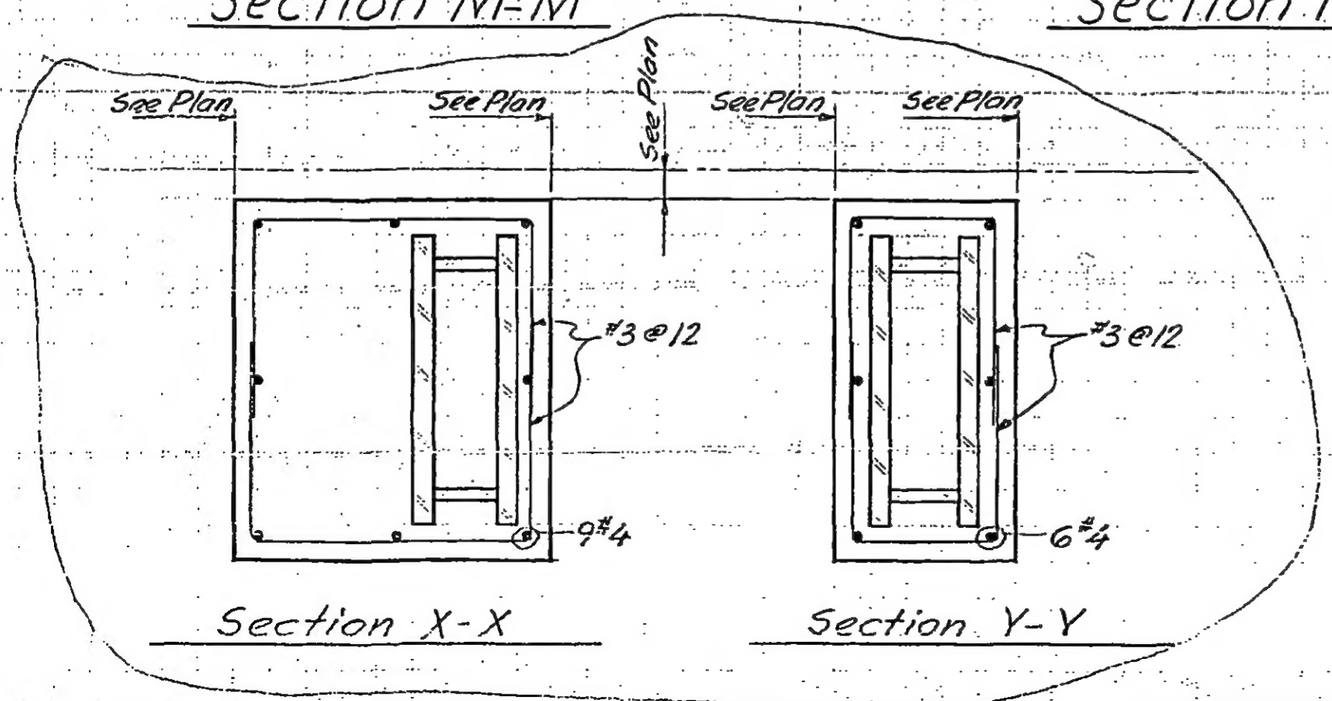

Section X-X

Section Y-Y

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PROJECT THE WORLD TRADE CENTER | TITLE CONCRETE FIREPROOFING | DATE 3-1-68

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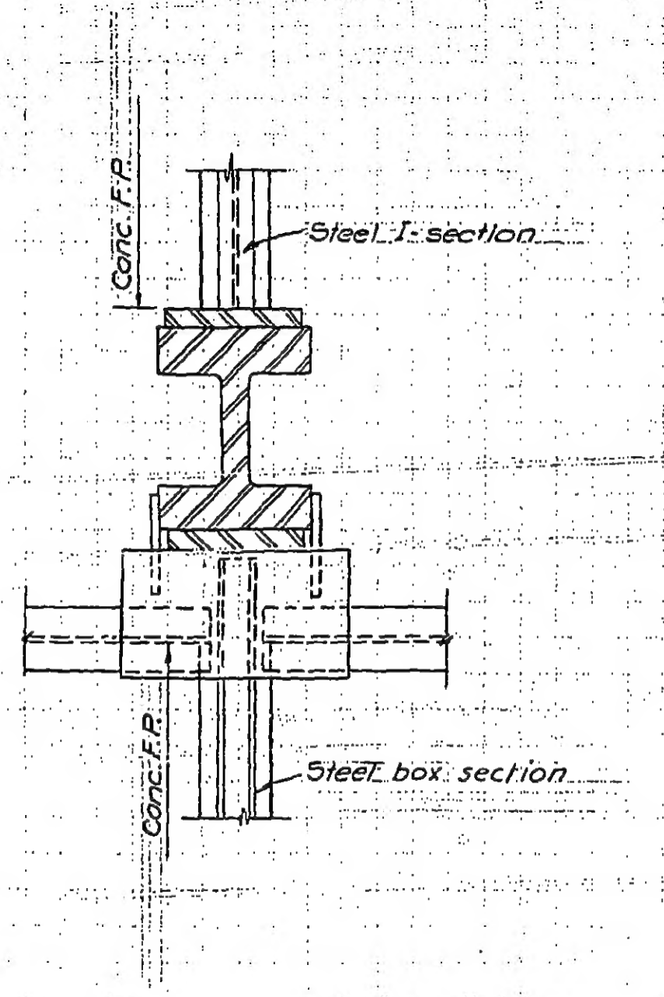
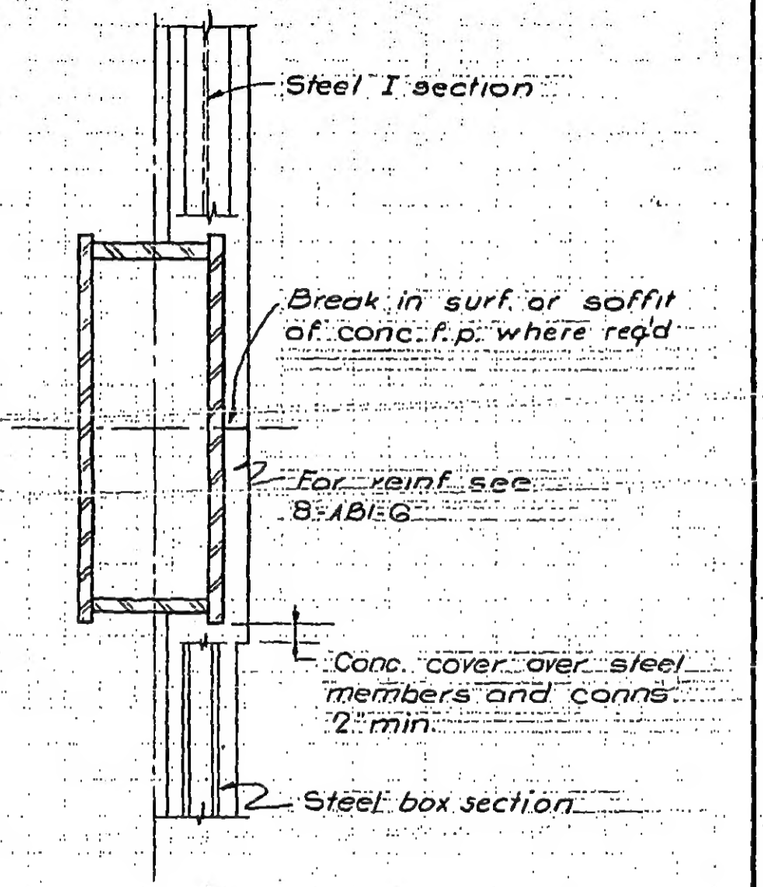


Detail P



Detail Q

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8-AB3-2.4

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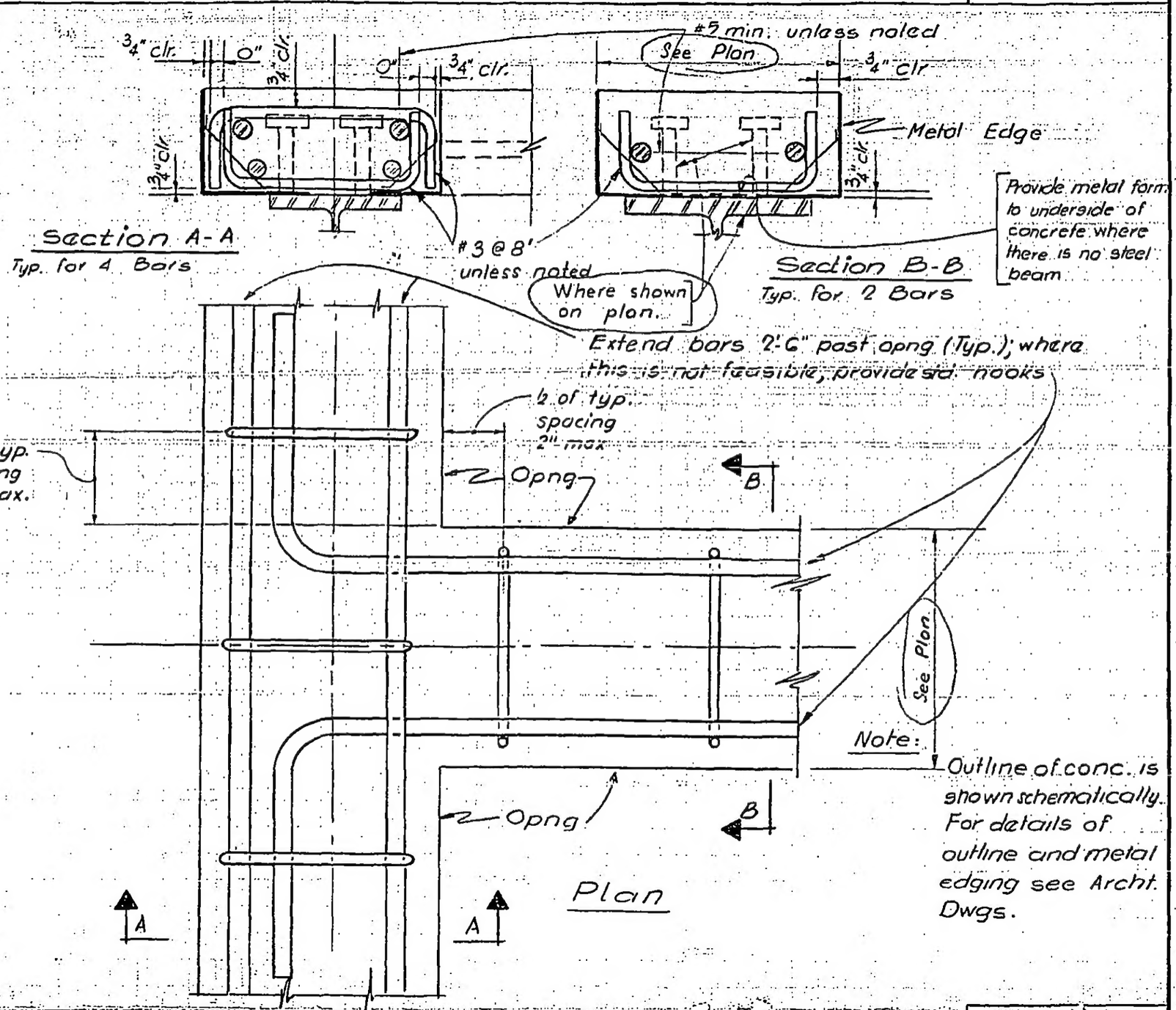
PROJECT THE WORLD TRADE CENTER | TITLE TYP NARROW SLAB OVER STEEL BEAM | DATE 3-1-68

REVISIONS
1-17-69
10-24-69



Note:
Outline of conc. is shown schematically. For details of outline and metal edging see Archt. Dwgs.

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8-AB5-3.1

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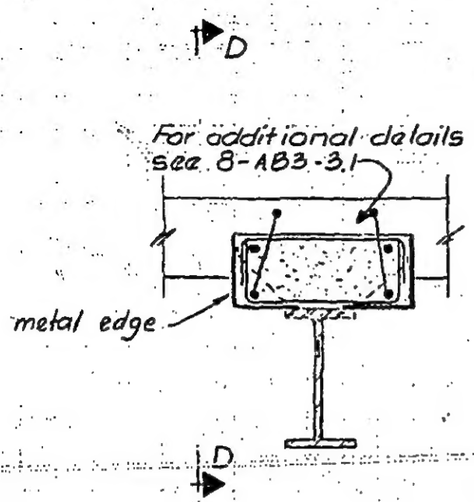
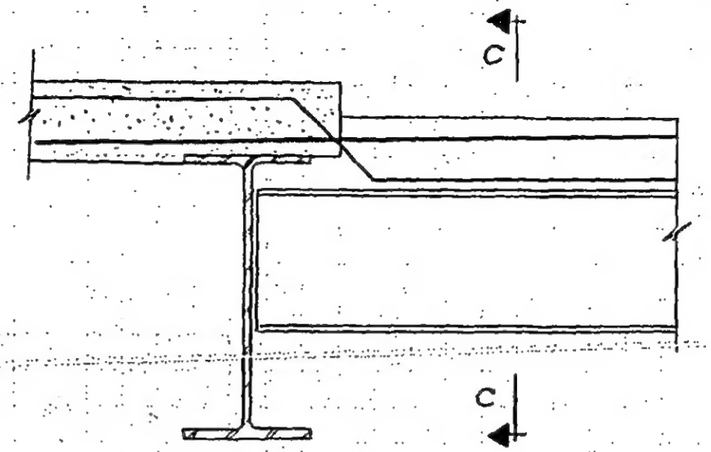
PROJECT THE WORLD TRADE CENTER | TITLE TYPICAL NARROW SLAB OVER STEEL BEAM | DATE 3-1-68

REVISIONS

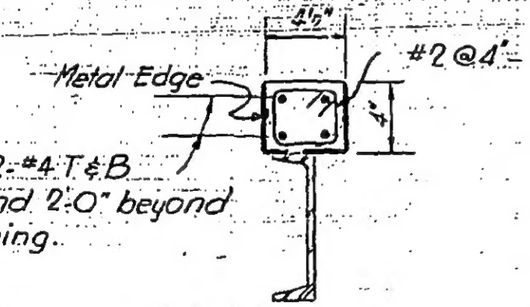


Section C-C



Section D-D

DETAIL AT DEPRESSION



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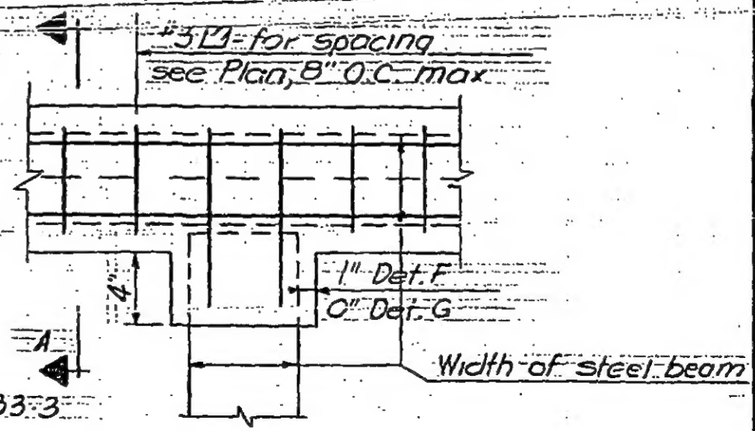

Detail F

Detail G

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8-AB3-3.2

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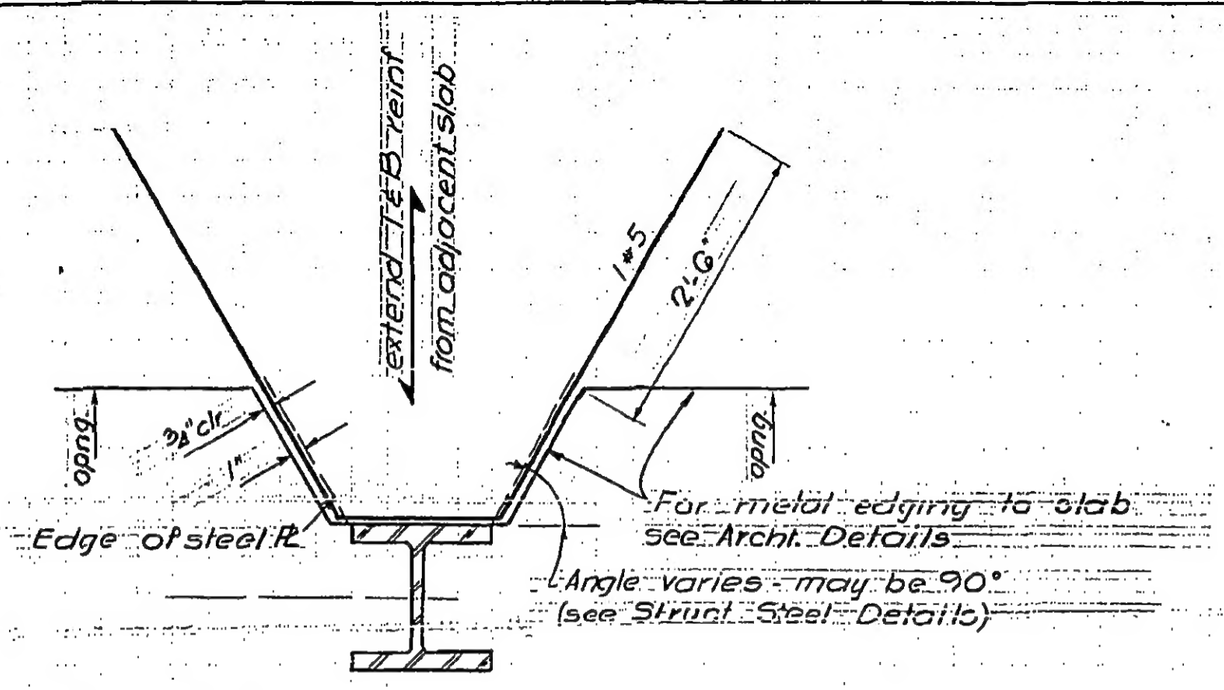
PROJECT THE WORLD TRADE CENTER | TITLE NARROW SLABS | DATE 3-1-68

REVISIONS



Detail H

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8-AB3-3.3

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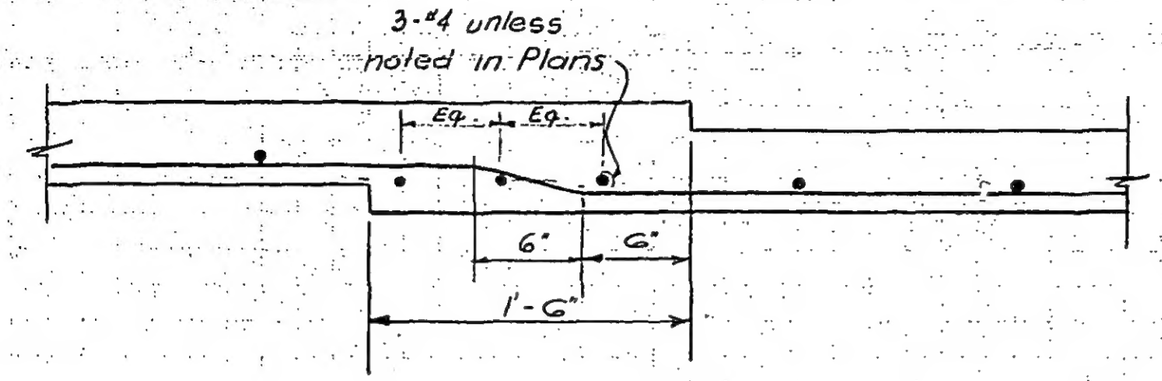
PROJECT THE WORLD TRADE CENTER | TITLE SECTIONS AT DEPRESSIONS | DATE 3-1-68

REVISIONS



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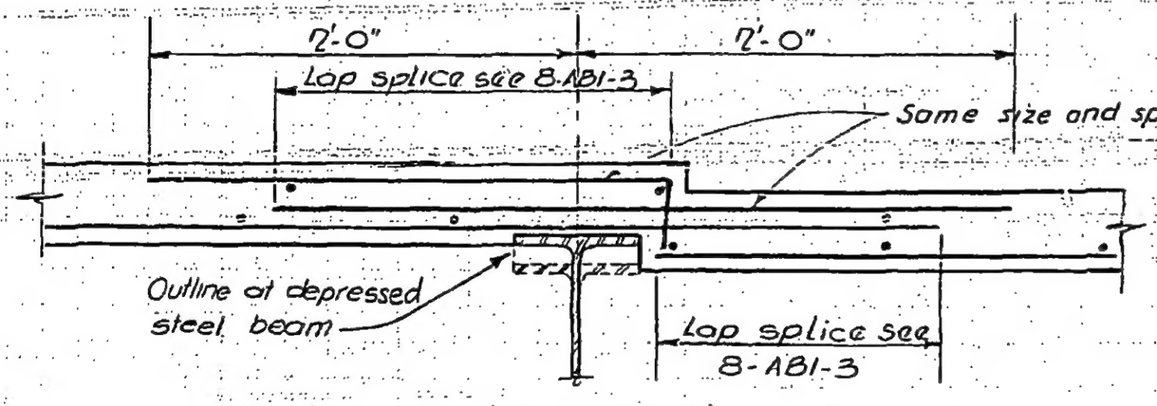
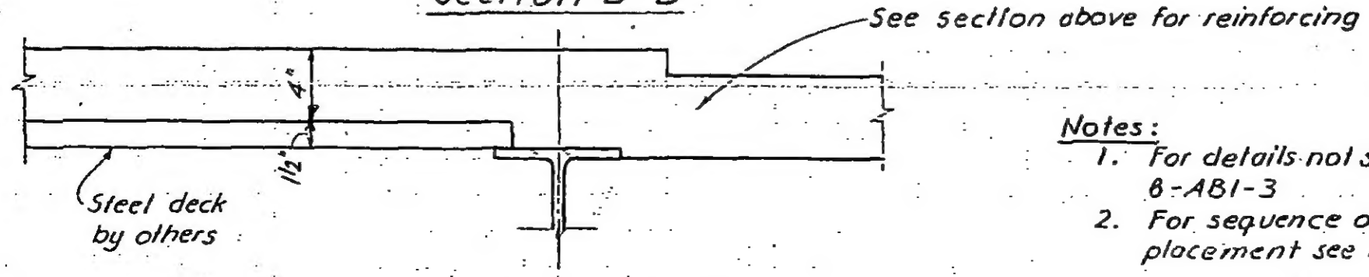


Section B-B



Section B-B
At Steel Deck

Notes:
1. For details not shown see 8-AB1-3
2. For sequence of bar placement see Plans.

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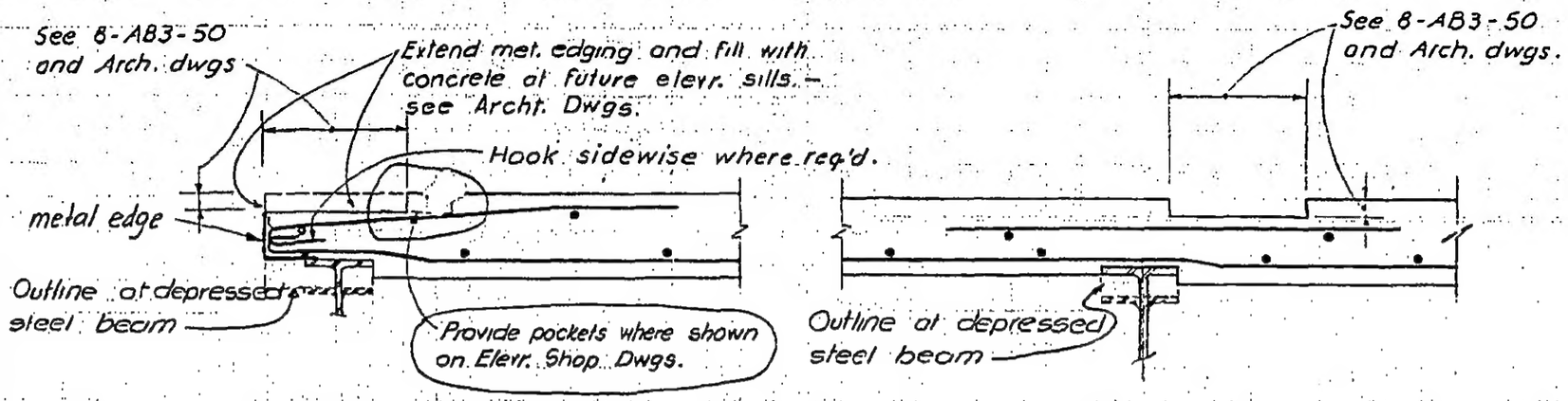
PROJECT THE WORLD TRADE CENTER | TITLE SECTIONS AT DEPRESSIONS | DATE 3-1-68

REVISIONS
1-17-69



Section D-D Section C-C

For size and length of bars, raiser bars, and other details not shown, see Plans and 8-AB1-3

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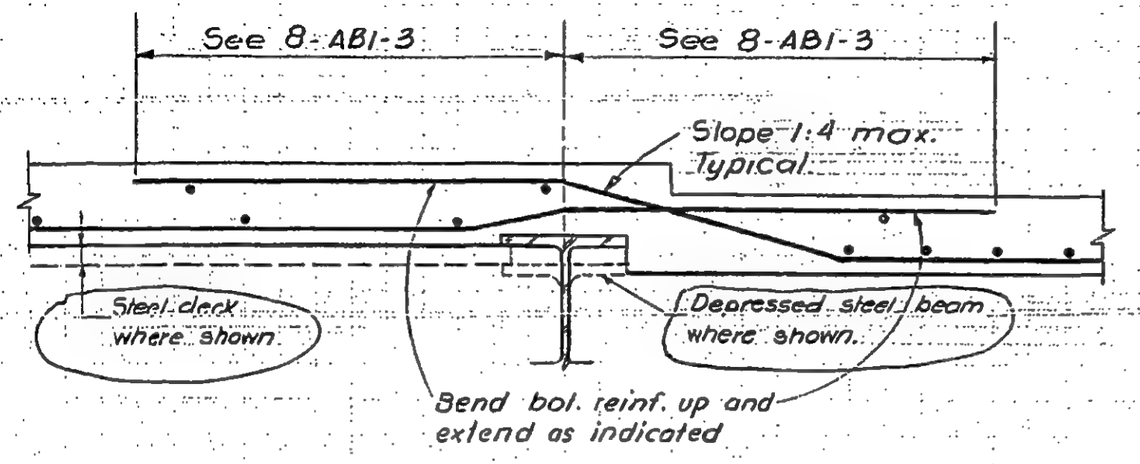
PROJECT THE WORLD TRADE CENTER | TITLE SECTIONS AT DEPRESSIONS | DATE 3-1-68

REVISIONS

1-28-69



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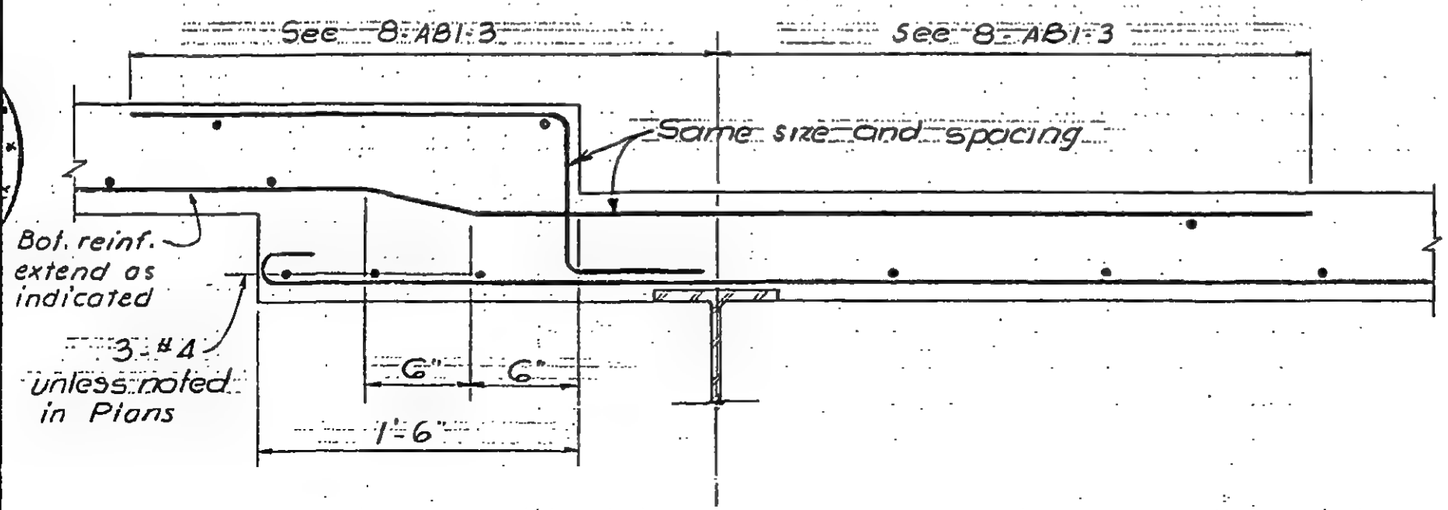

Section F-F

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8-AB3-4.3

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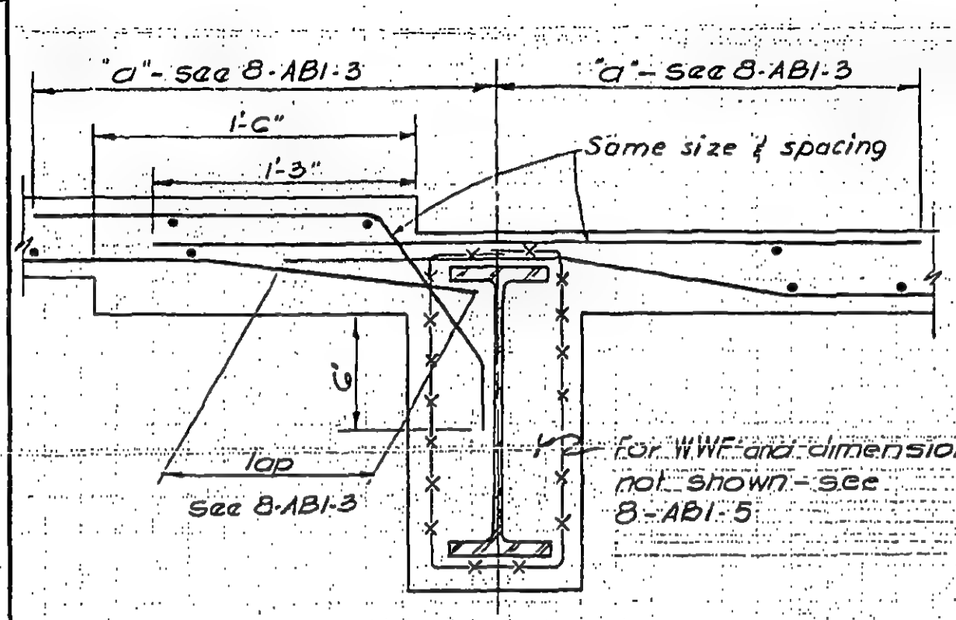
PROJECT THE WORLD TRADE CENTER | TITLE SECTIONS AT DEPRESSIONS | DATE 3-1-68

REVISIONS

10-24-69



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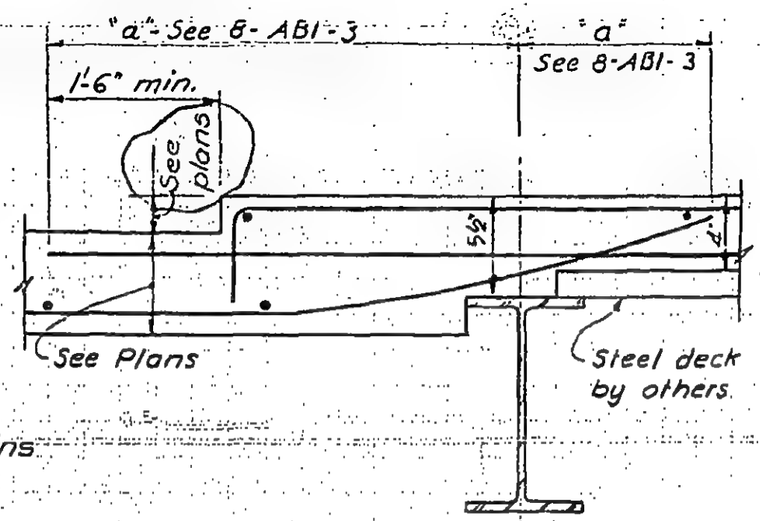

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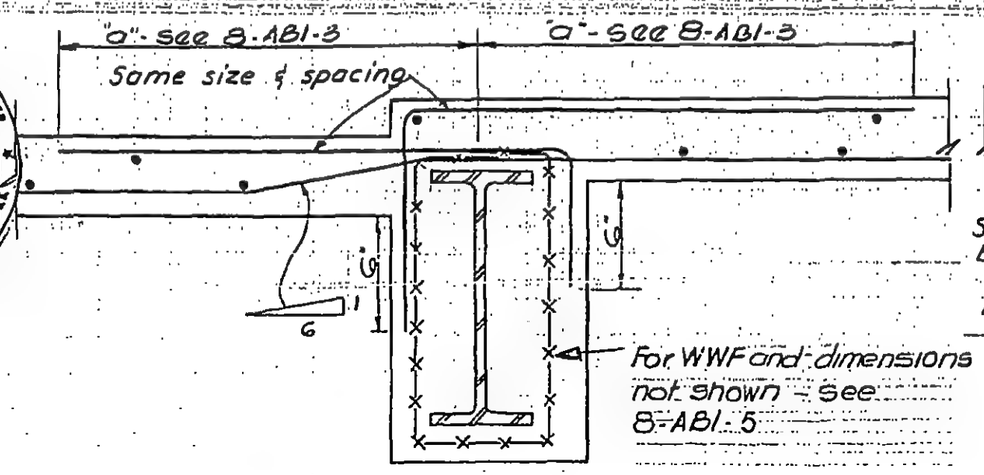

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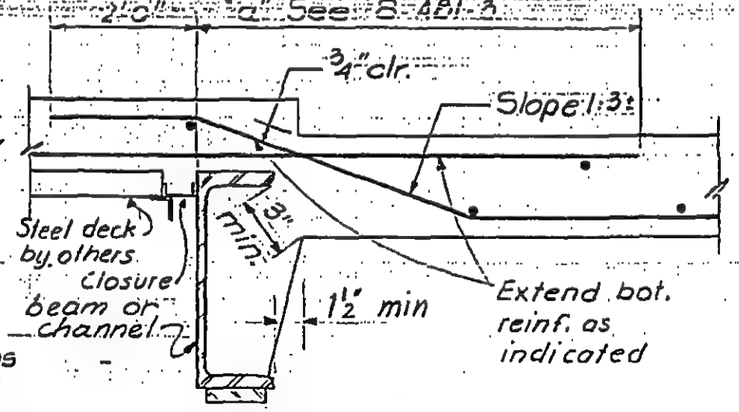

Section K-K

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8-AB3-4.4

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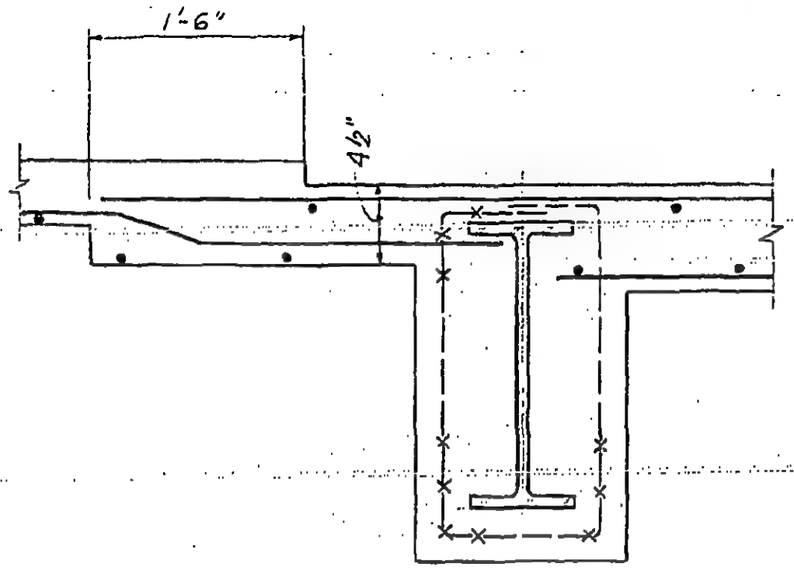
PROJECT THE WORLD TRADE CENTER | TITLE SECTIONS AT DEPRESSIONS | DATE 3-1-68

REVISIONS



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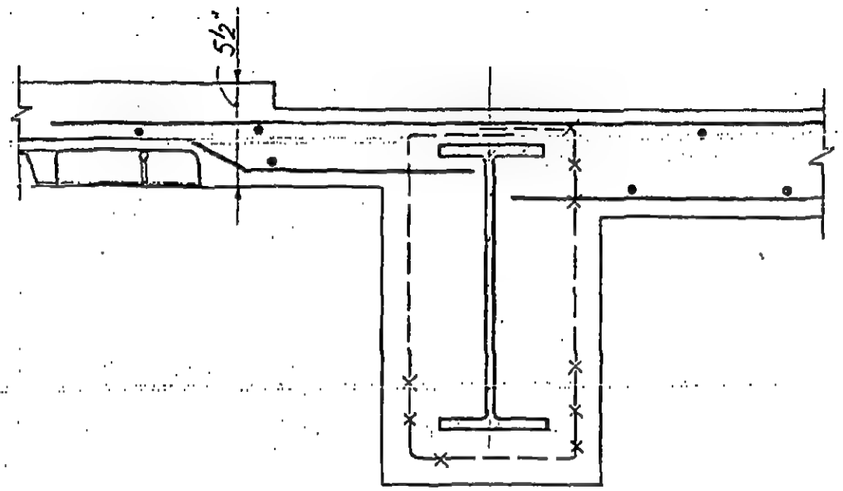

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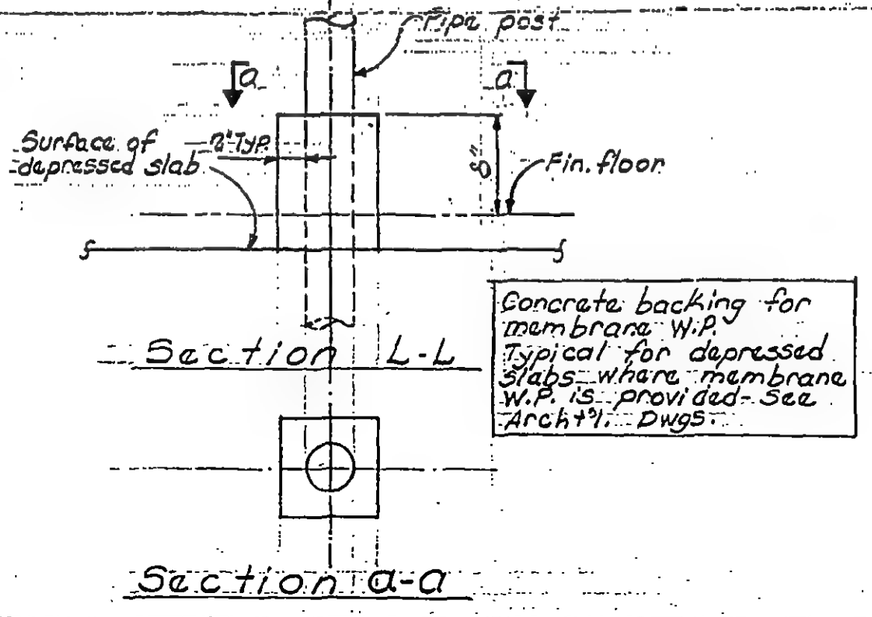

Section L-L

Section a-a

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8-AB3-4.5

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PROJECT THE WORLD TRADE CENTER | TITLE SECTIONS AT DEPRESSIONS | DATE 3-1-68

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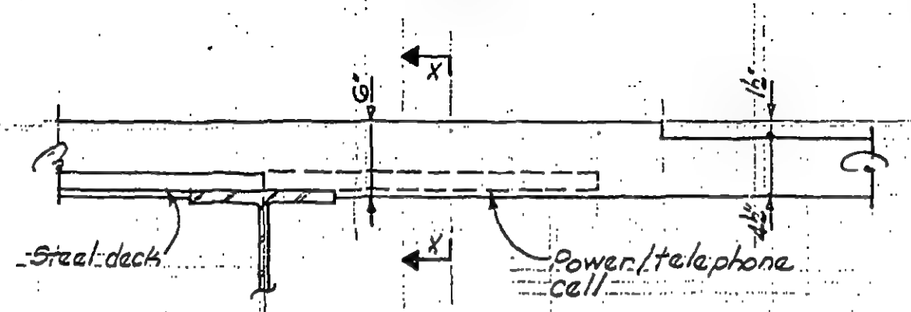

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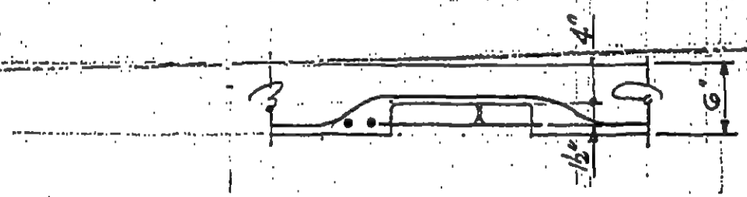


Section X-X

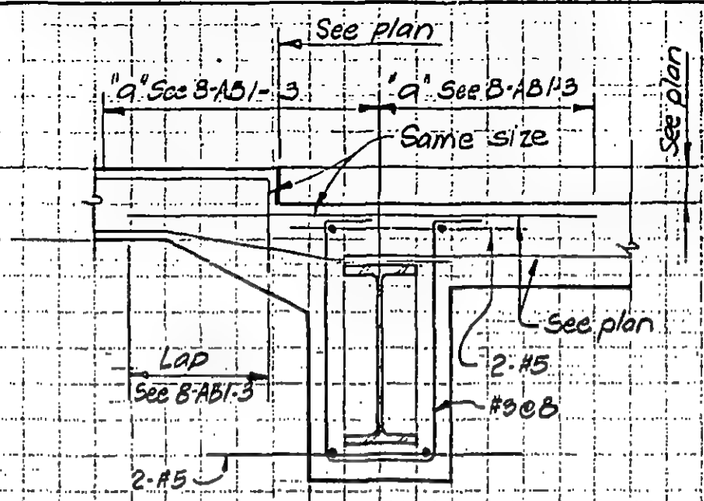
LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

8-AB3-4.6

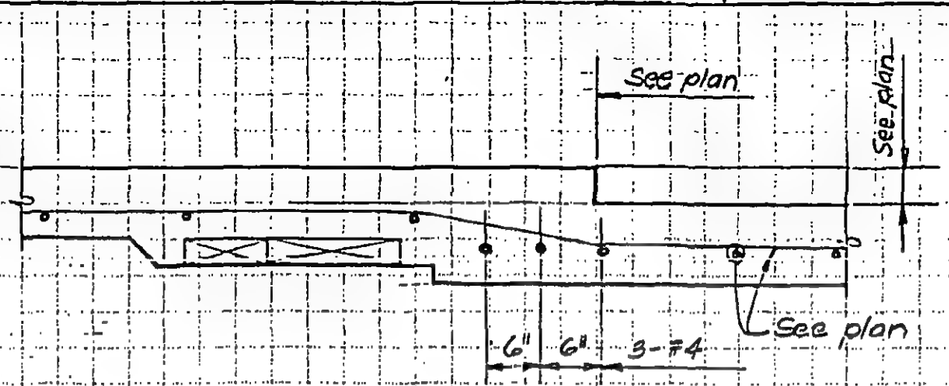
SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

PROJECT: THE WORLD TRADE CENTER | TITLE: SECTIONS AT DEPRESSIONS | DATE: 6-18-71

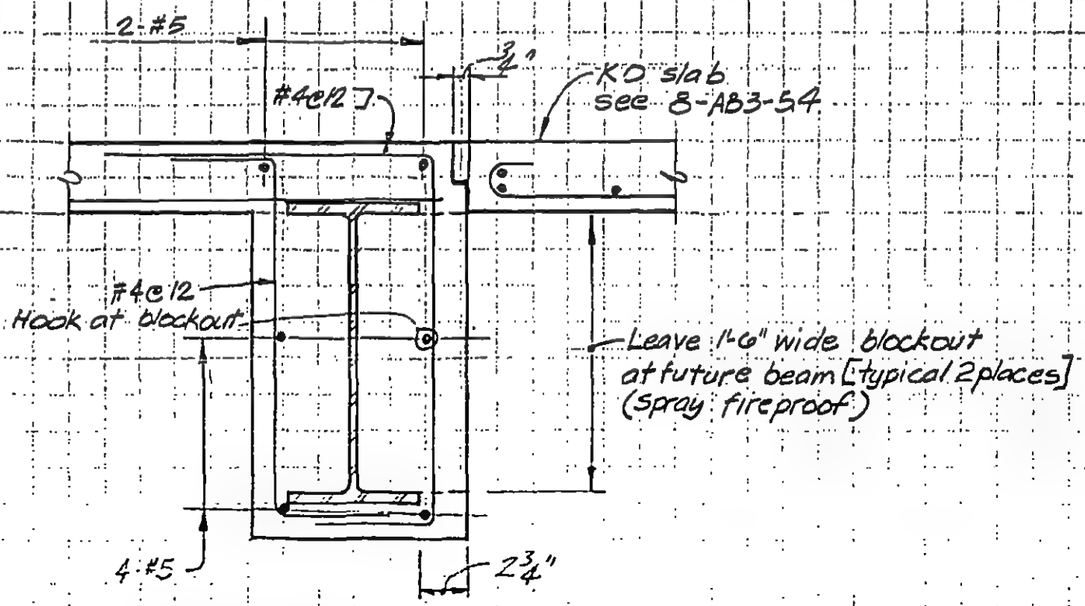
REVISIONS



Section R-R



Section S-S



Section T-T

LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

DESIGNED

DRAWN

REVIEWED

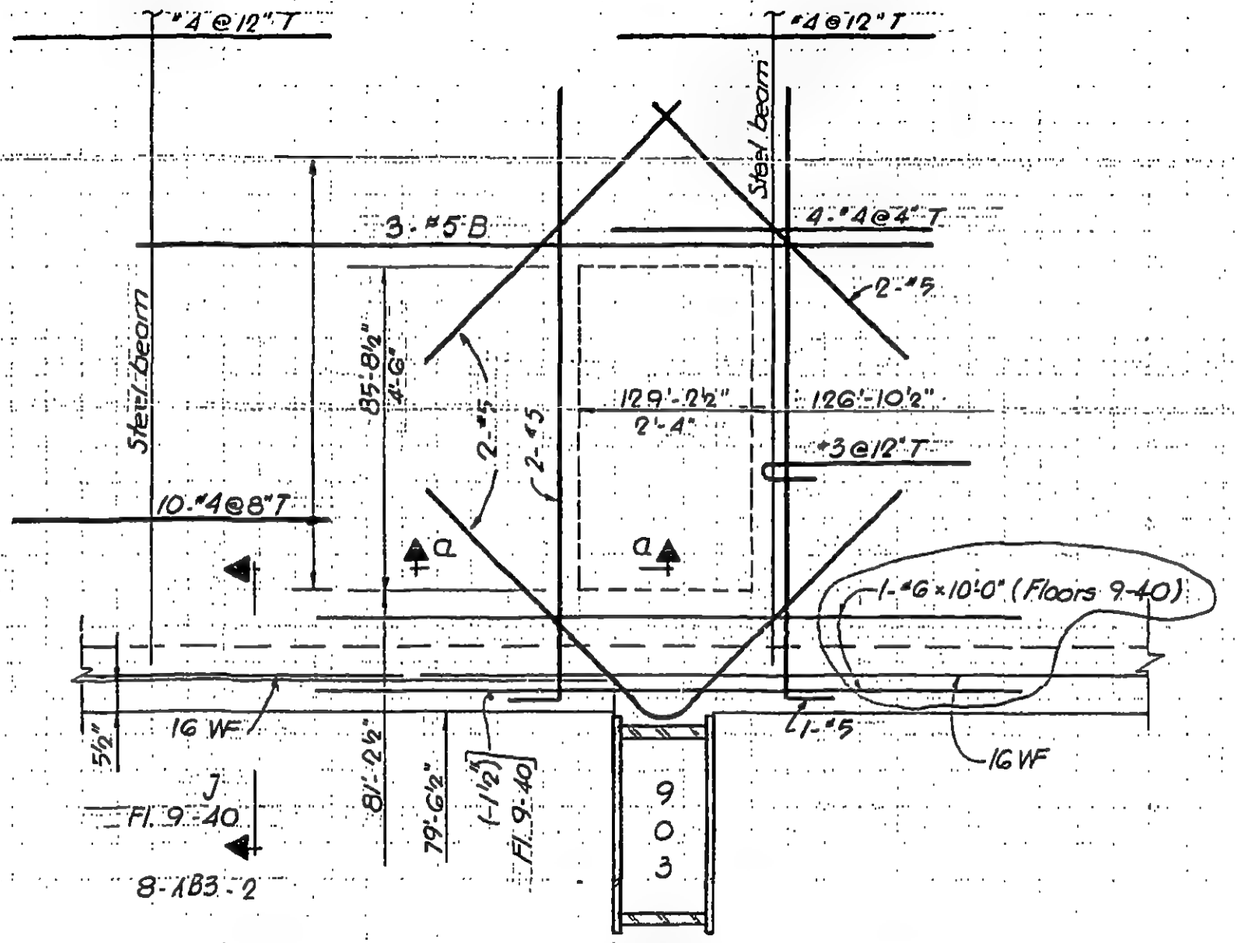
B-AB3-4.7

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE KNOCK OUT SLAB DETAILS | DATE 3-1-68

REVISIONS

2-11-69



Typical Floors 5 to 7, & Floors 10-40
as noted Floors 8 & 9

Notes:

1. No K.O. Slab at Floor 8.
2. At Floor 9 provide top bars as shown in Plan
3. For length of bars and other information see 8-AB1-3 and 5, and Plans

LICENSED PROFESSIONAL ENGINEER
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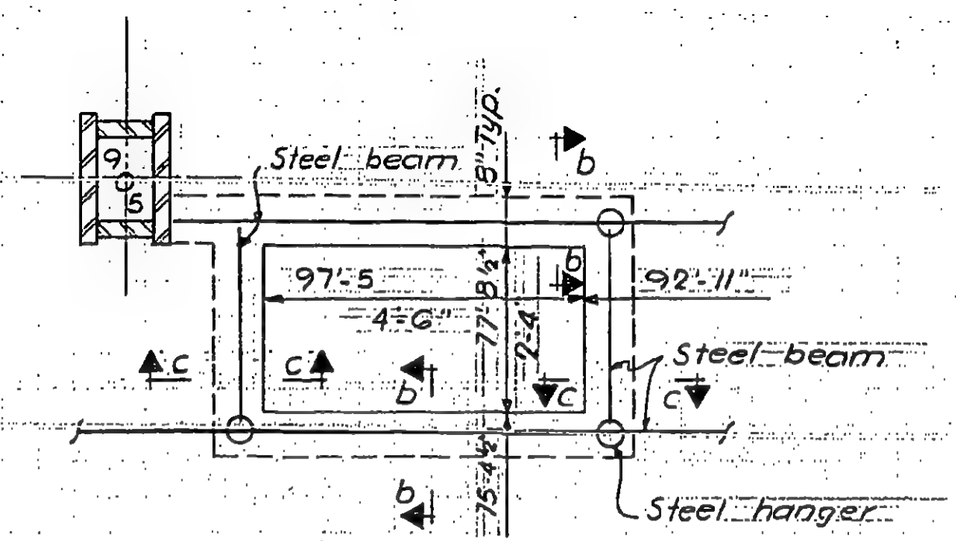
No. 34360
UNIVERSITY OF THE STATE OF N.Y.

8-AB3-5.1

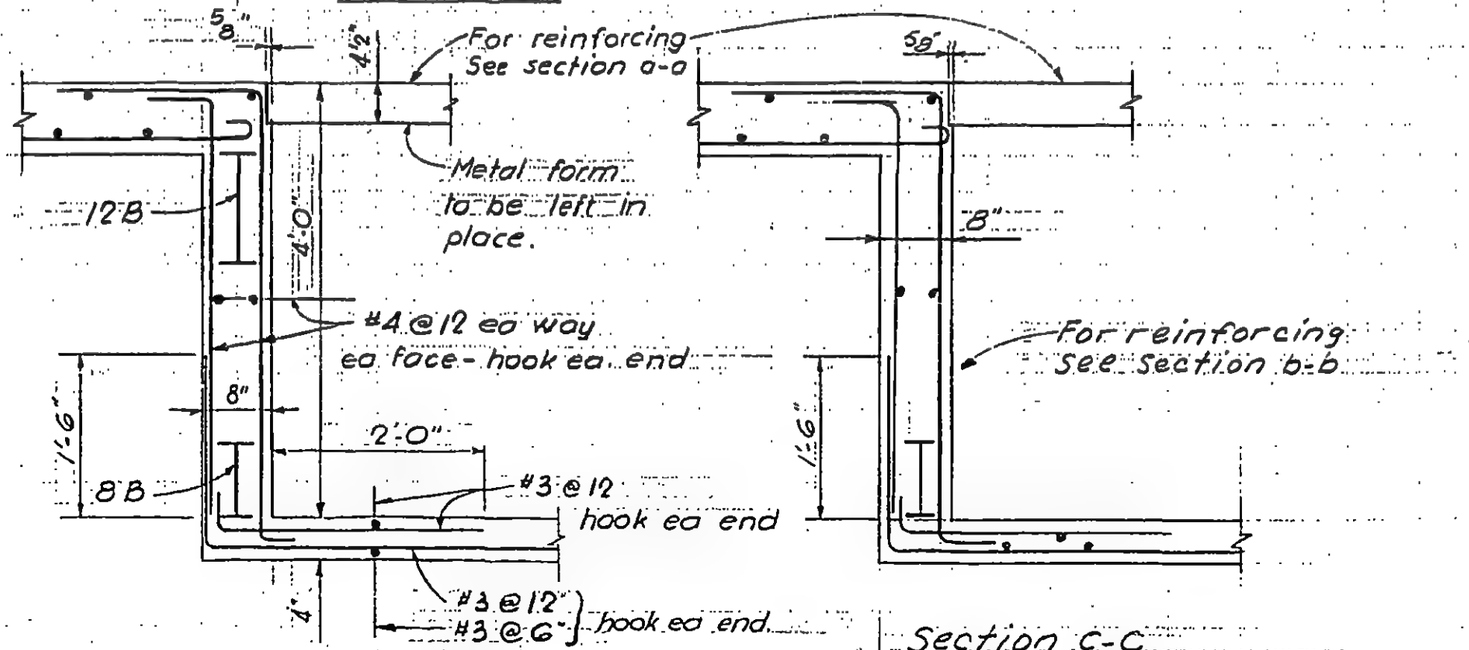
SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE KNOCK-OUT SLAB DETAILS | DATE 3-1-68

REVISIONS



FLOOR 43



Section b-b

Section c-c

8-AB3-5.2

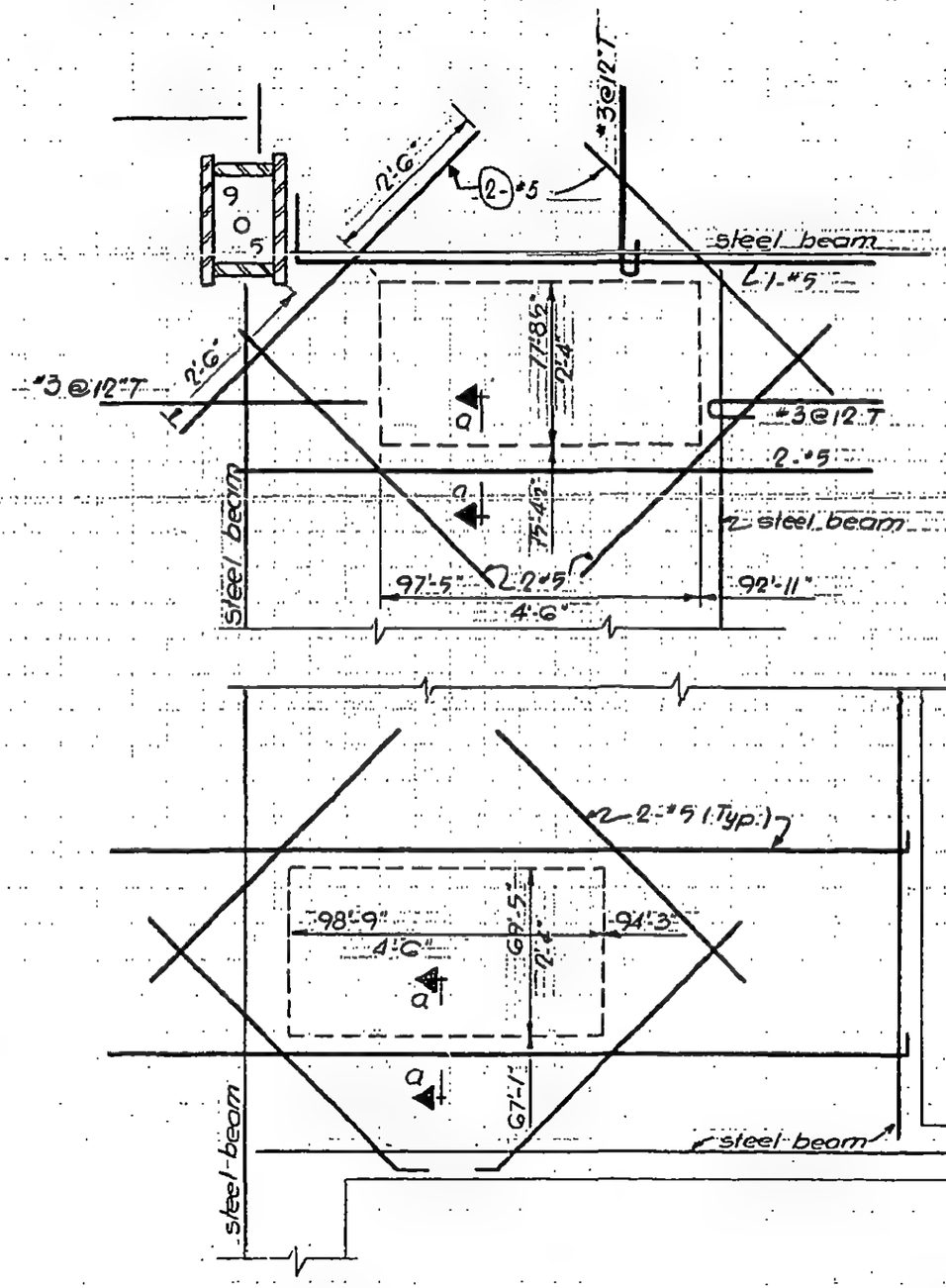
LICENSED PROFESSIONAL ENGINEER LESLIE E. ROBERTSON No. 34360 UNIVERSITY OF THE STATE OF NEW YORK

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE KNOCK - OUT SLAB DETAILS | DATE 3-1-68

REVISIONS

1-28-69



Floors 44 - 75

Floor 49 shown. Other floors similar; for modifications see Plans.

Floors 75 - 107

Floor 87 shown. Other floors similar; for modifications see Plans.

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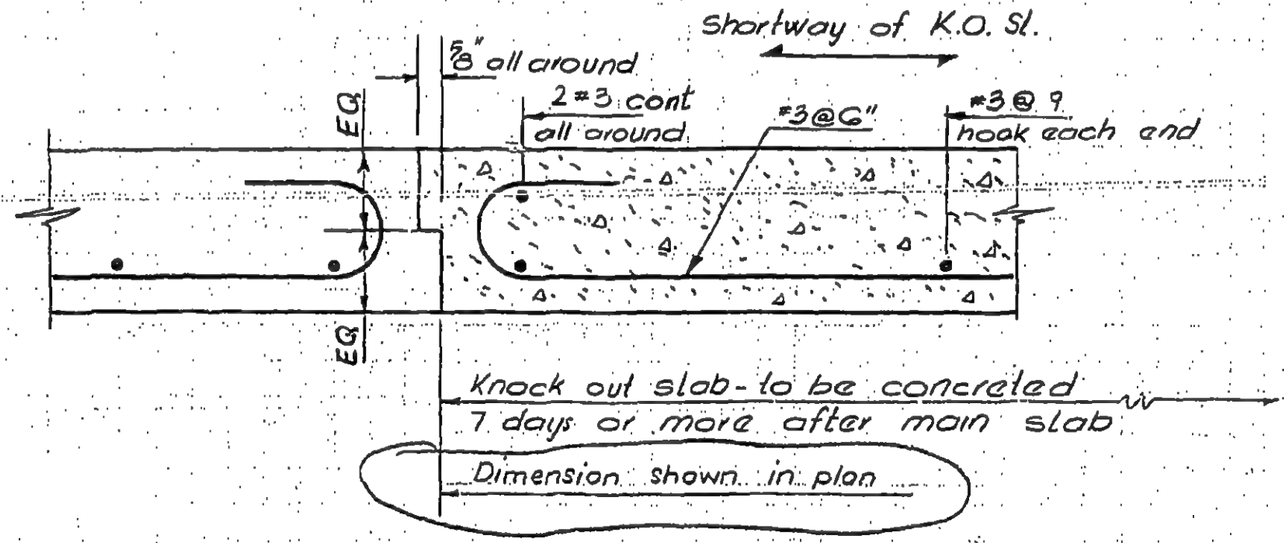
8-AB3-5.3

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE TYPICAL KNOCK-OUT SLAB DETAIL | DATE 3-1-68

REVISIONS

3-19-70



Section a-a

For Detail Plans see 8-AB3-5.1 thru 5.3 & plans

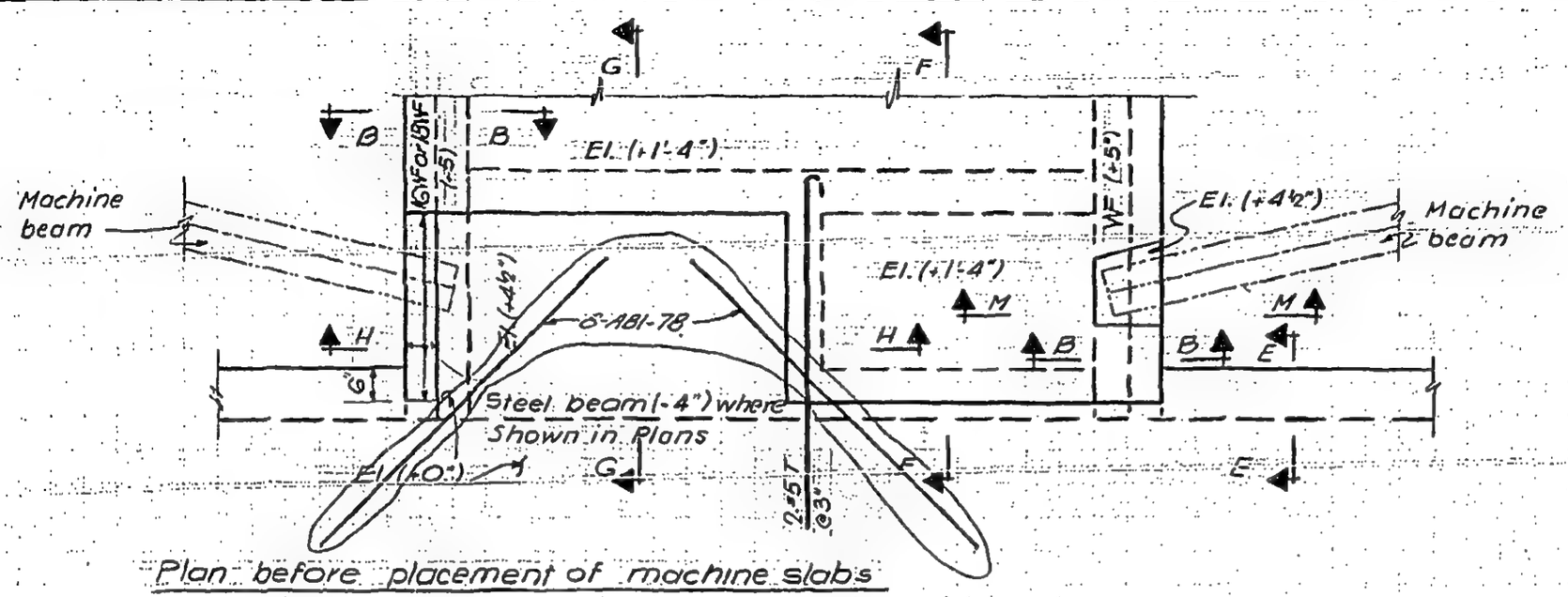
8-AB3-5.4

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON · Structural & Civil Engineers

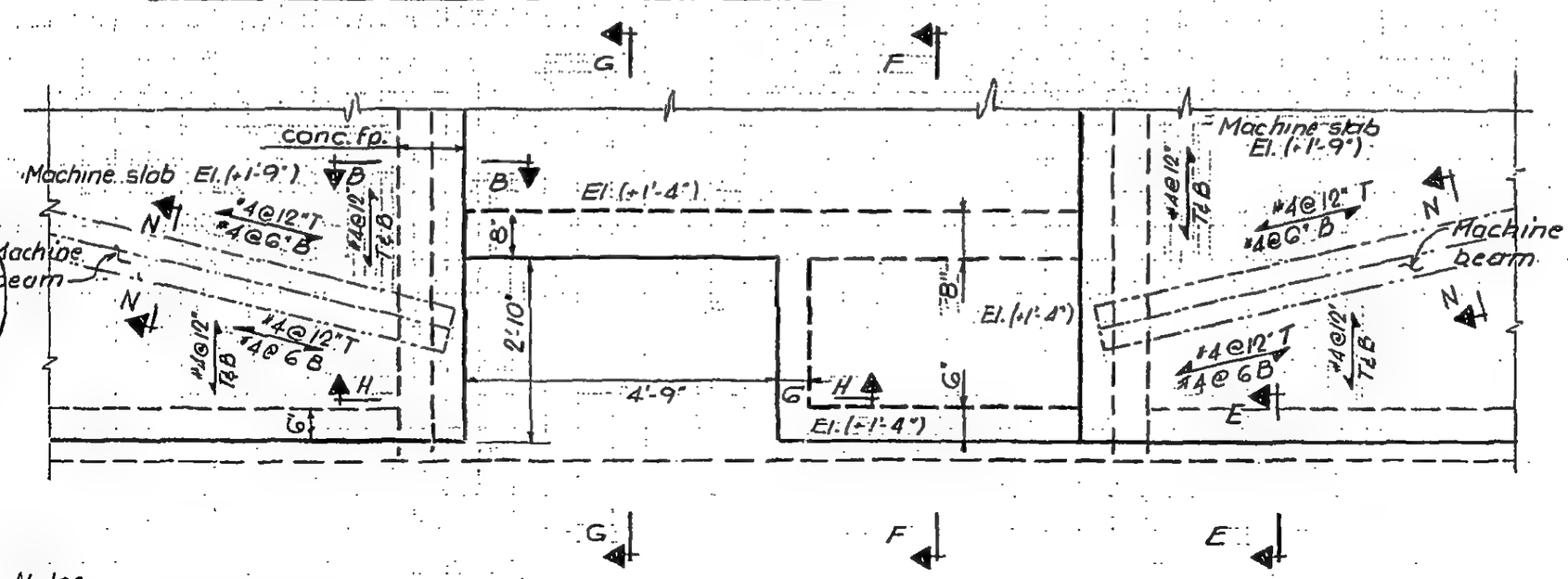
PROJECT THE WORLD TRADE CENTER | TITLE DETAILS AT LOCAL ELEVATOR MACHINE ROOM | DATE 3-1-68

REVISIONS

3-12-69



Plan before placement of machine slabs



Notes:

Floor 56 shown

Floors 18, 26, 34, 63 & 88 similar

Floors 69, 95 & 102 opp. hand

Plan after placement of machine slabs

Detail S

PLAN AT MACHINE ROOM FLOORS

8-AB3-G.1

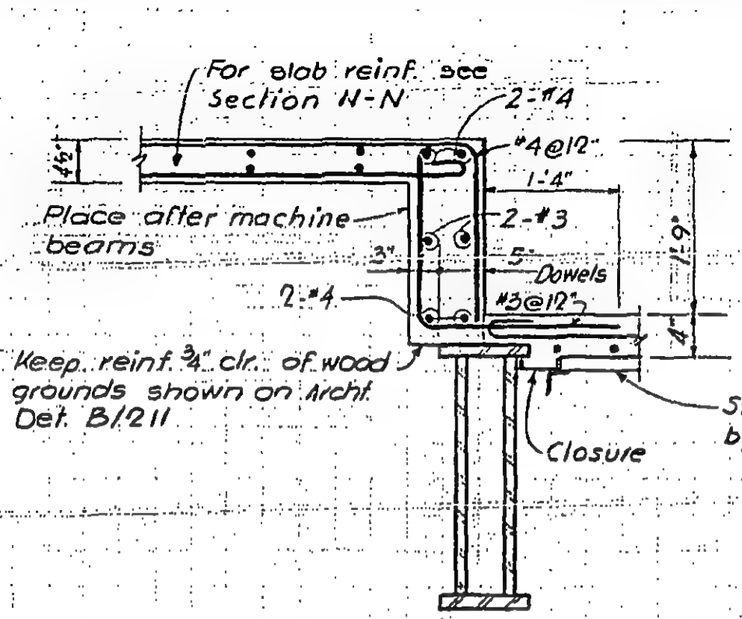
LICENSED PROFESSIONAL ENGINEER LESLIE E. ROBERTSON No. 34360 UNIVERSITY OF THE STATE OF NEW YORK

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

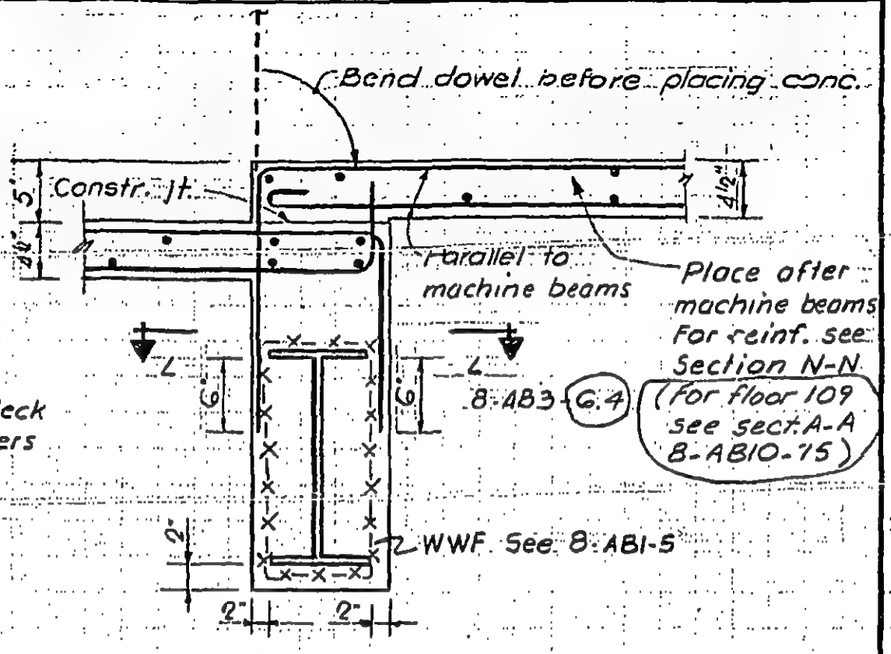
PROJECT THE WORLD TRADE CENTER | TITLE SECTIONS AT LOCAL ELEVATOR MACHINE ROOMS | DATE 3-1-68

REVISIONS

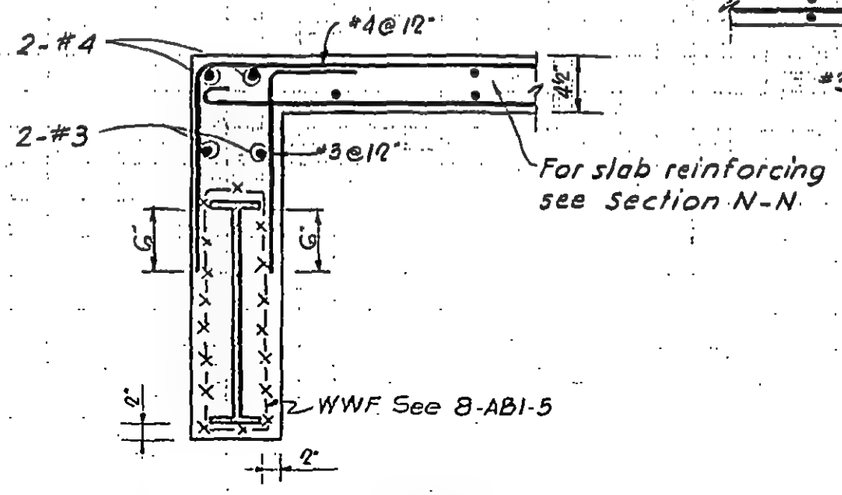
12-1-70



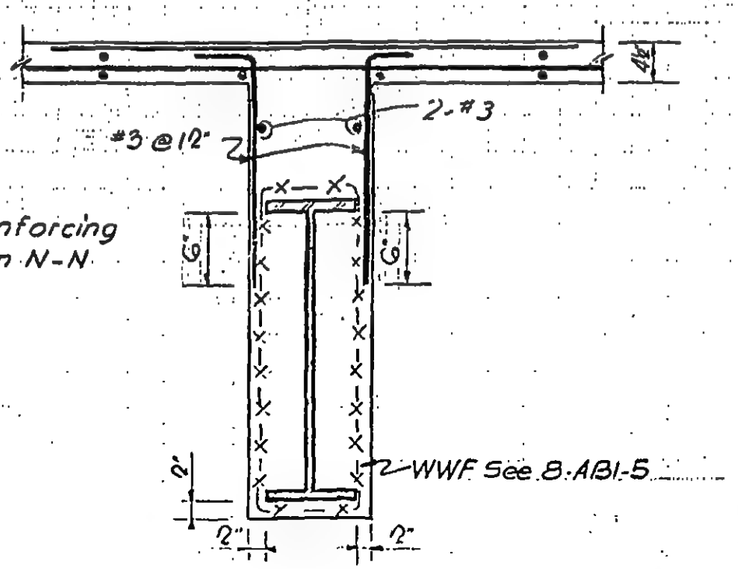
Section A-A



Section B-B



Section C-C



Section D-D

LICENSED PROFESSIONAL ENGINEER LESLIE E. ROBERTSON No. 34360 UNIVERSITY OF THE STATE OF NEW YORK

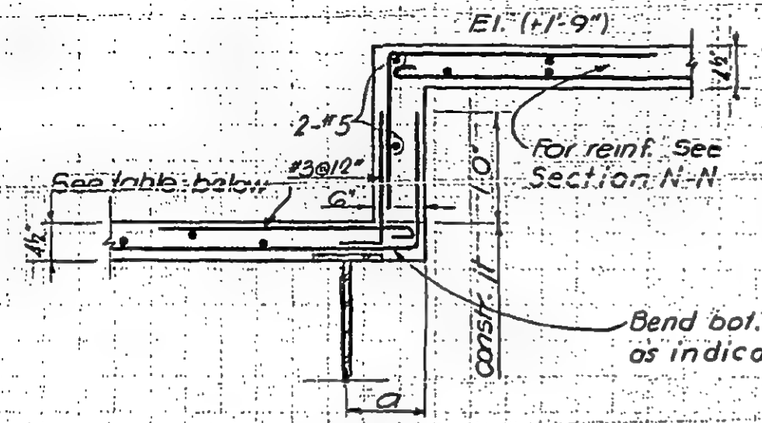
8-AB3-G.2

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE SECTIONS AT LOCAL ELEVATOR MACHINE ROOMS | DATE 3-1-68

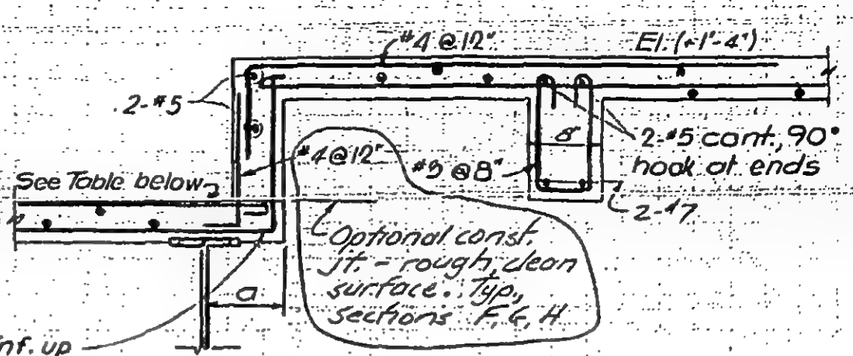
REVISIONS

3-12-69

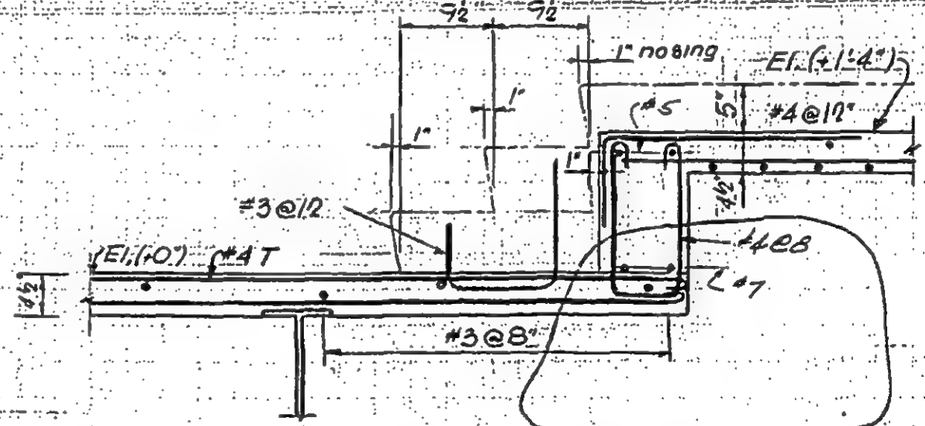


Section E-E

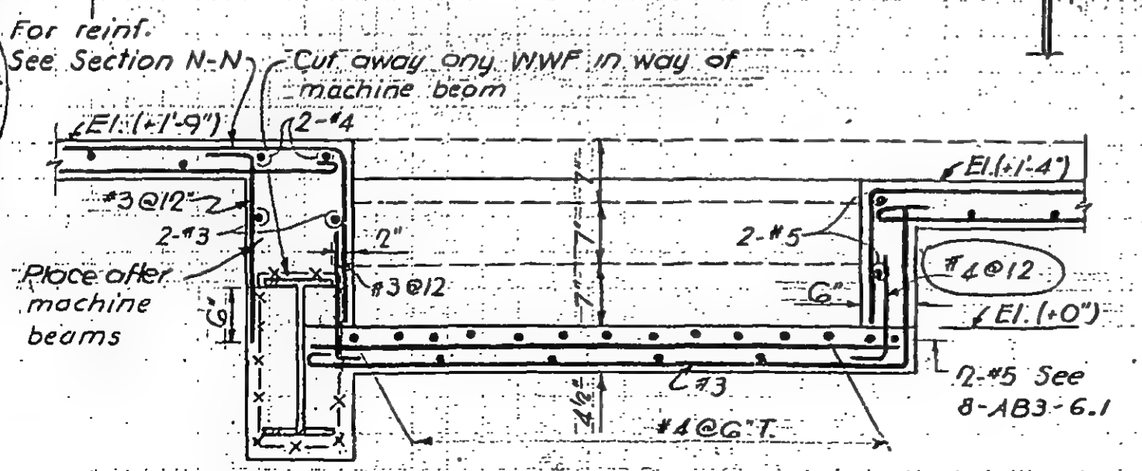
Table of Top Bars for Sect E-E & F-F	
a	Reinforcing
1'-0¼" to 3'-0"	#4@6"
1'-0" or less	#3@12"



Section F-F



Section G-G



Section H-H

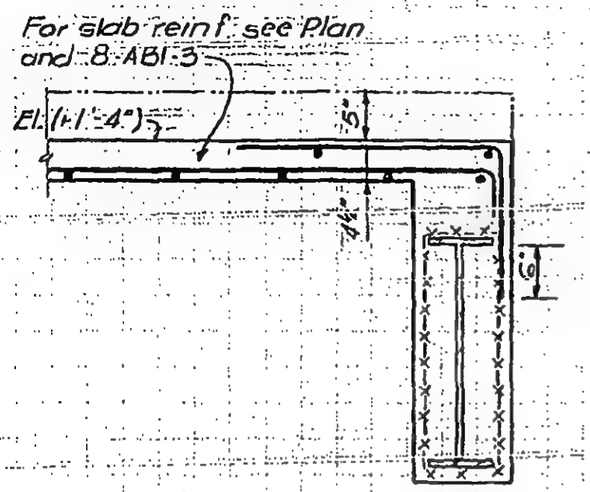
LICENSED PROFESSIONAL ENGINEER LESLIE E. ROBERTSON No. 34360 UNIVERSITY OF THE STATE OF NEW YORK

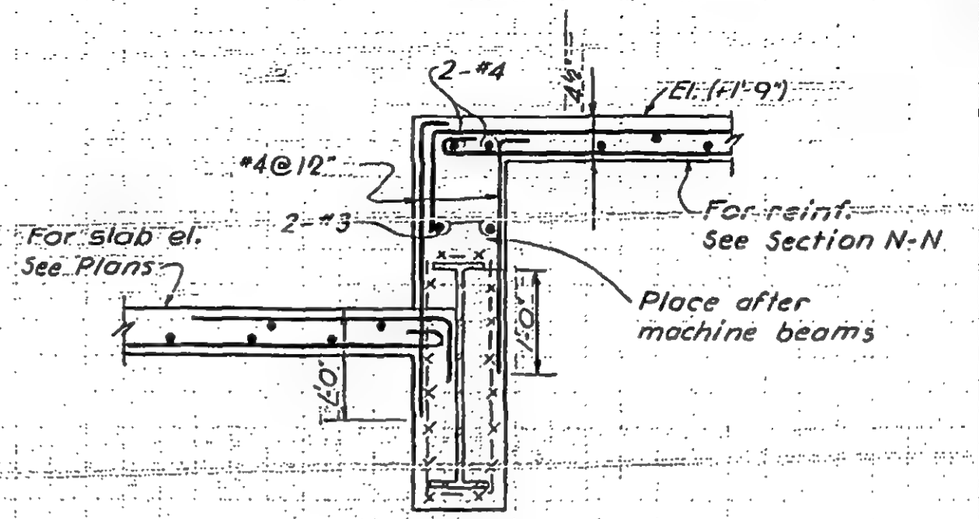
8-AB3-G.3

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

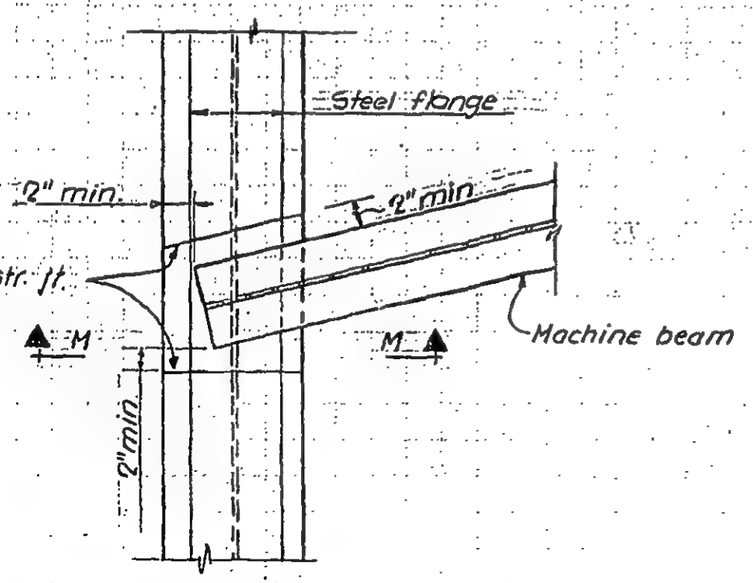
PROJECT THE WORLD TRADE CENTER | TITLE SECTION AT LOCAL ELEVATOR MACHINE ROOMS | DATE 3-1-68

REVISIONS





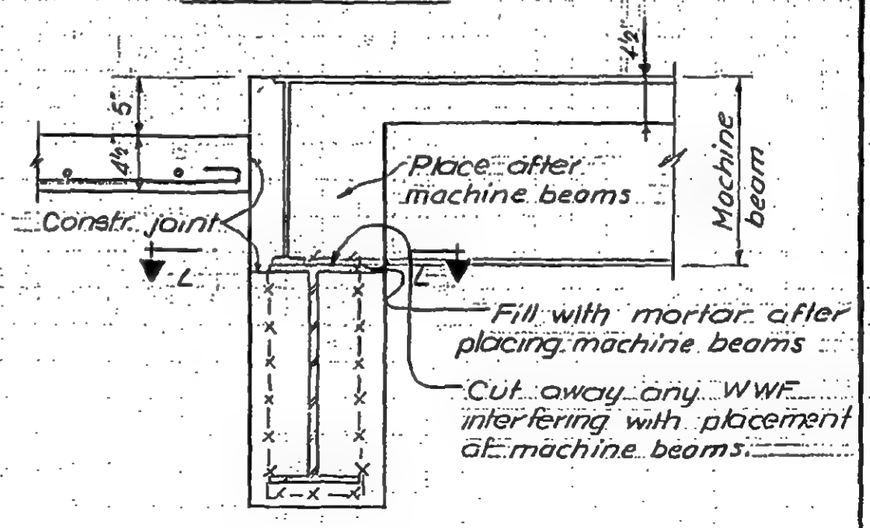
Section J-J



Plan L-L

Typical at Machine Beam Pocket

Section K-K



Section M-M

LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF N.Y.

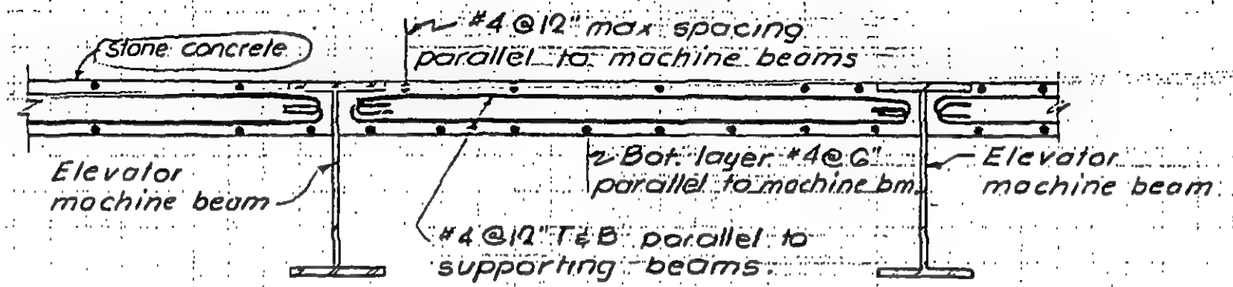
B-AB3-6.4

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE SECTIONS AT LOCAL ELEVATOR MACHINE ROOMS | DATE 3-1-68

REVISIONS

1-28-69



Typ. Reinf. at Machine Slabs

Section N-N

Notes:

Space around, do not cut, bars at smoke holes, steel columns or other obstructions

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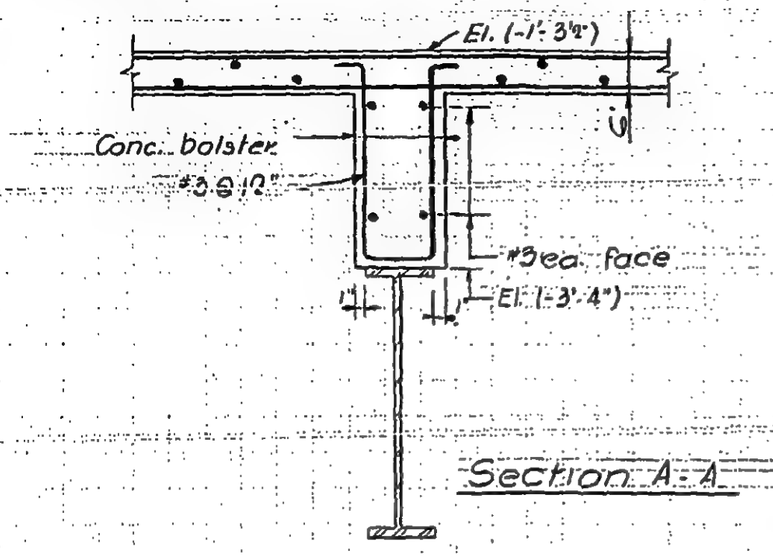
8-AB3-Q.5

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

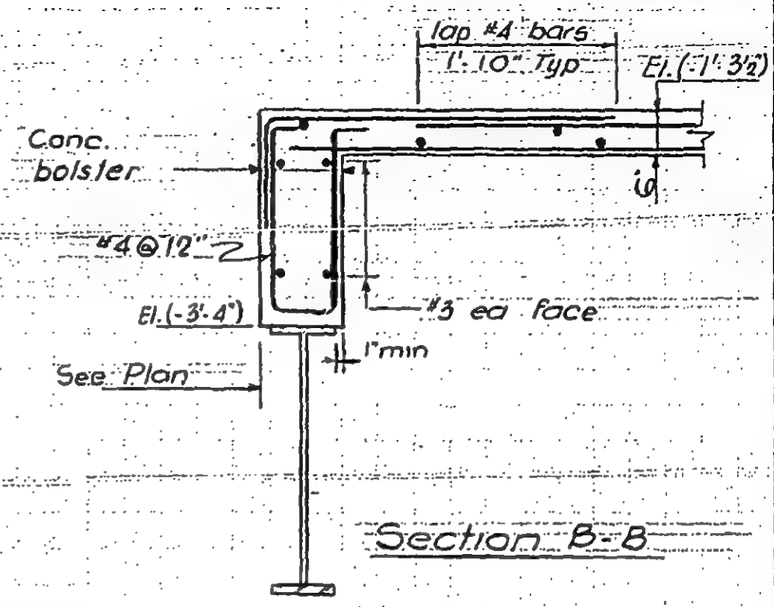
PROJECT THE WORLD TRADE CENTER | TITLE SECTIONS AT SHUTTLE ELEVATOR MACH. ROOMS | DATE 3-1-68

REVISIONS

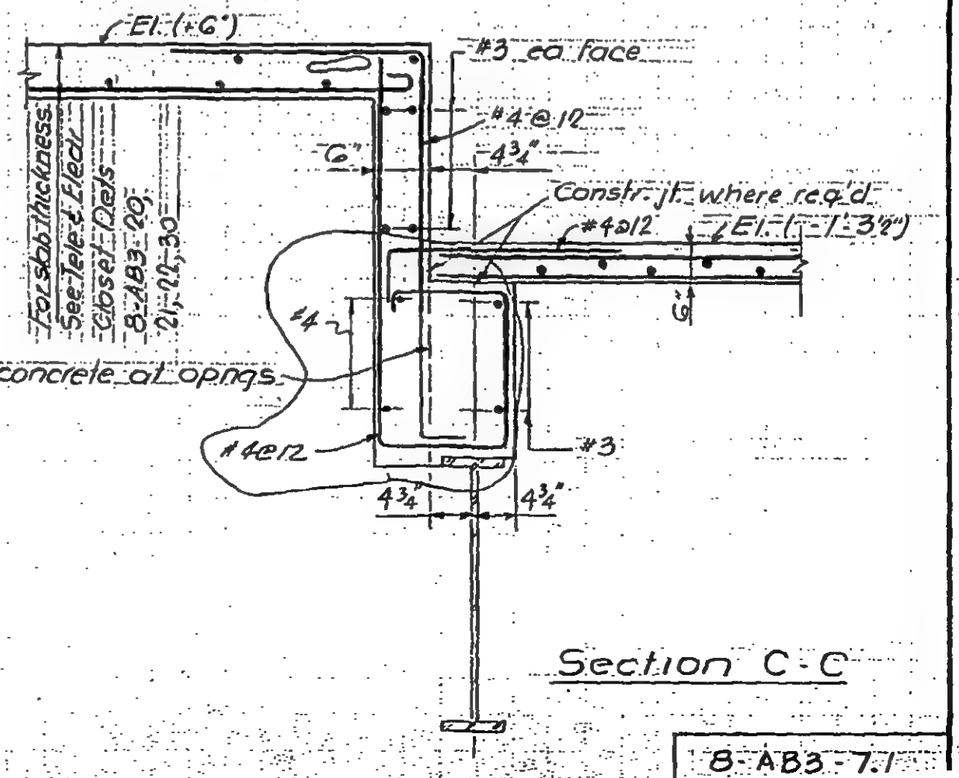
10-24-69



Section A-A



Section B-B



Section C-C

Notes to Sections A-A thru F-F

1. Details of Machine beam pockets in concrete bolsters similar to Section L-L, M-M, 8-AB3-6. Hook longitudinal bars at pockets.
2. Construction joints in concrete bolsters similar to 8-AB1-4, Det. B.
3. For reinforcing of slab at el. (-1'3½") see Section G-G. Horiz. legs of bent bars or dowels embedded in this slab shall be parallel or normal to mach. beams.

LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

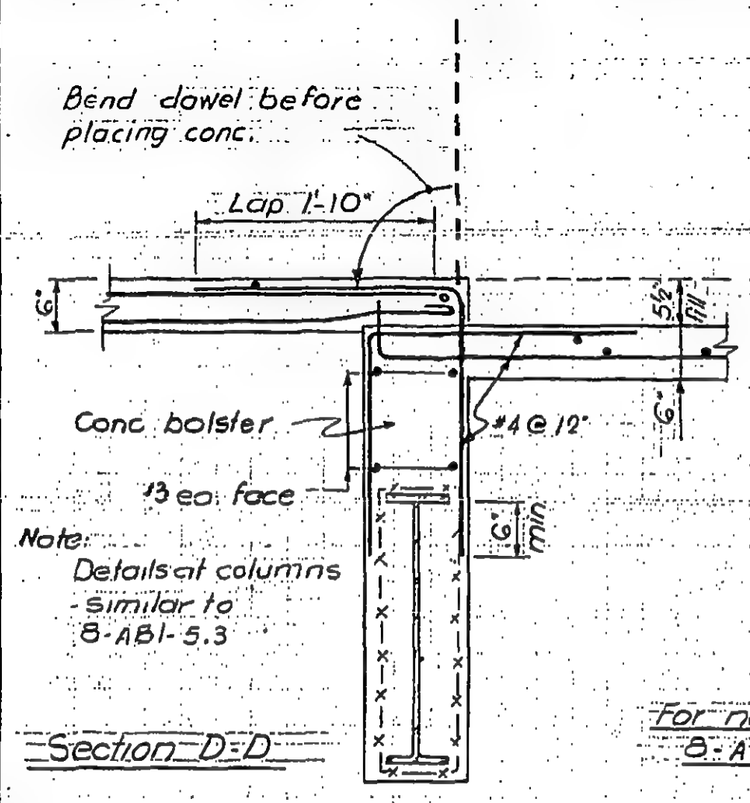
8-AB3-7.1

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

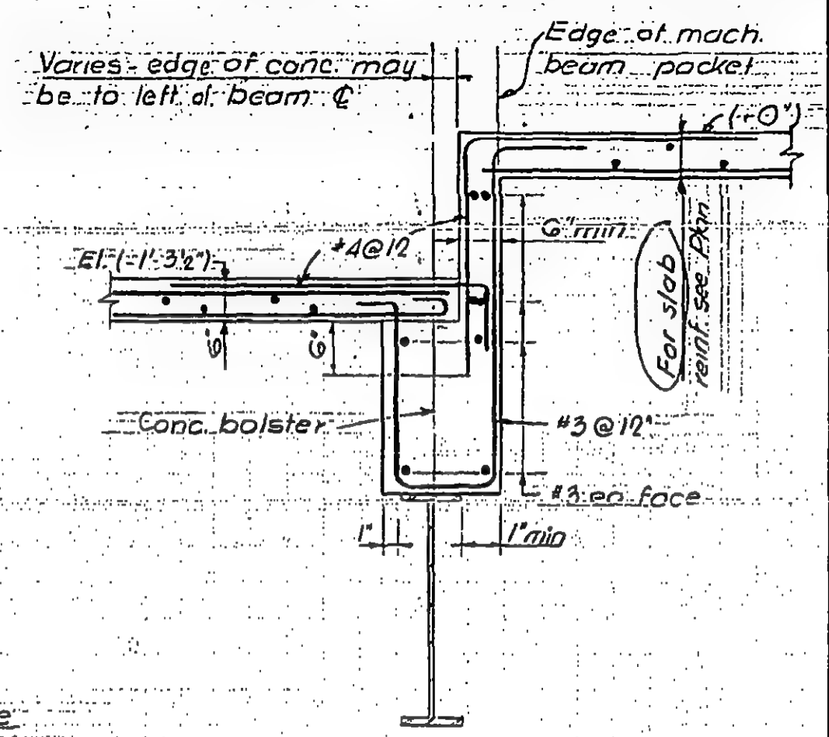
PROJECT THE WORLD TRADE CENTER | TITLE SECTIONS AT SHUTTLE ELEVATOR MACH. ROOMS | DATE 3-1-68

REVISIONS

1-28-69

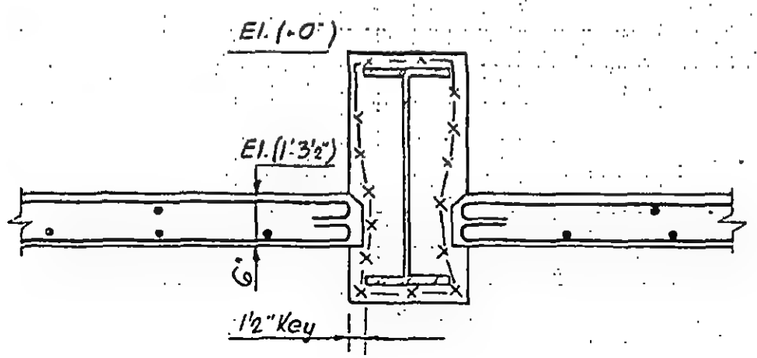


Section D-D

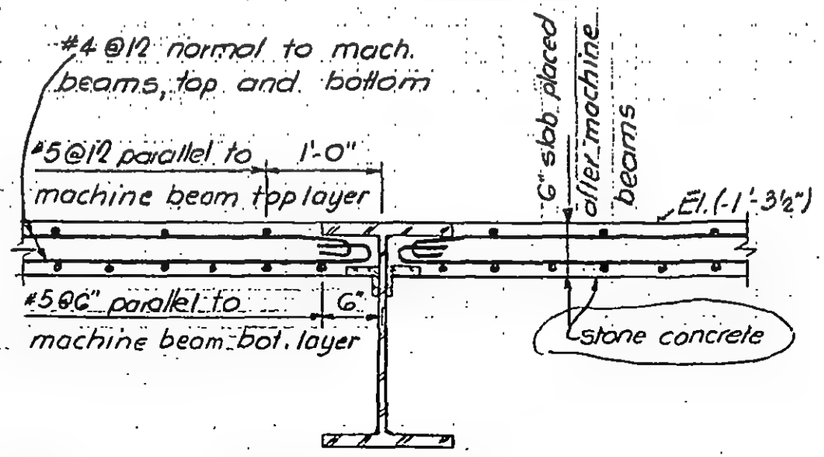


For notes see 8-AB3-7.1

Section E-E



Section F-F



TYPICAL REINF. AT MACHINE BEAM

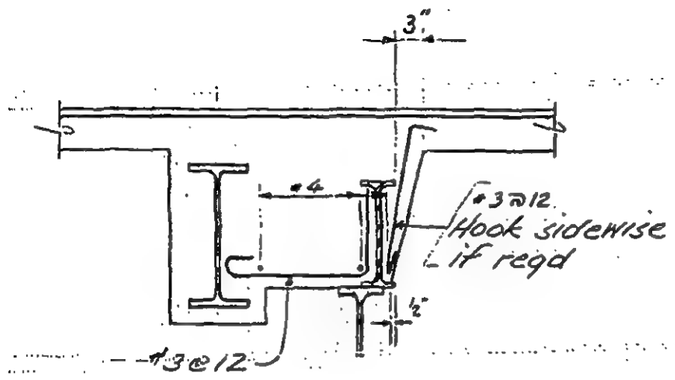
Section 6-6 | 8-AB3-7.2

LICENSED PROFESSIONAL ENGINEER LESLIE E. ROBERTSON No. 34360 UNIVERSITY OF THE STATE OF NEW YORK

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE SECTIONS AT SHUTTLE ELEV MACHINE ROOMS | DATE 4-23-69

REVISIONS



Section H-H

LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

DESIGNED A.L.A.

DRAWN J.Adams

REVIEWED

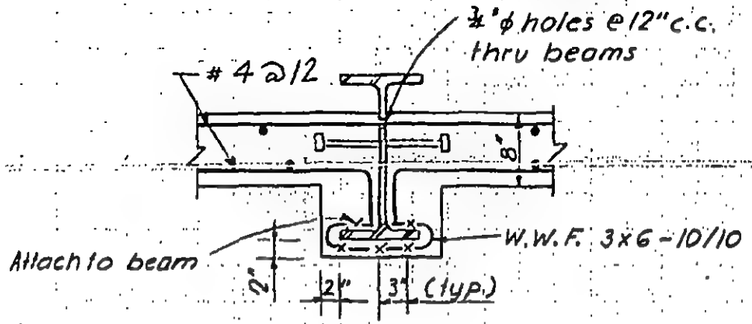
8-AB3-7.3

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

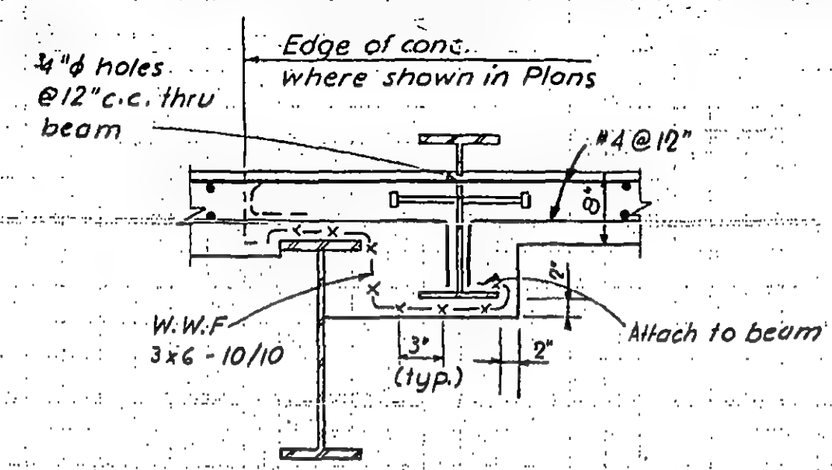
PROJECT THE WORLD TRADE CENTER | TITLE ELEVATOR PIT SECTIONS & DETAILS | DATE 3-1-68

REVISIONS

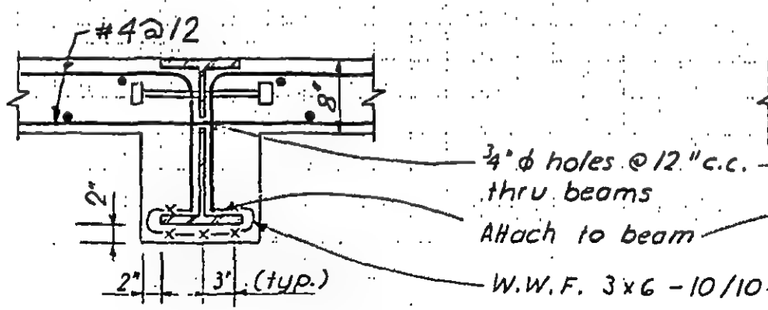
8-20-68



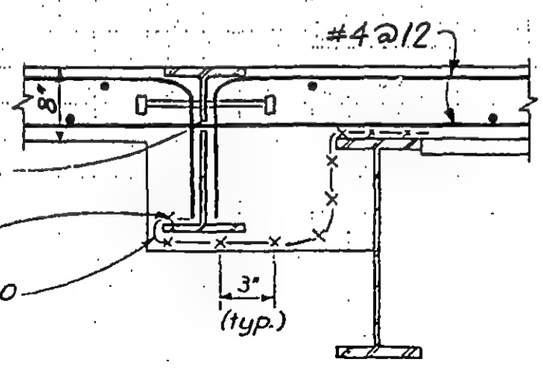
Section A-A



Section B-B



Section C-C



Section D-D

LICENSED PROFESSIONAL ENGINEER LESLIE E. ROBERTSON No. 34360 UNIVERSITY OF THE STATE OF NEW YORK

8-AB3-8.1

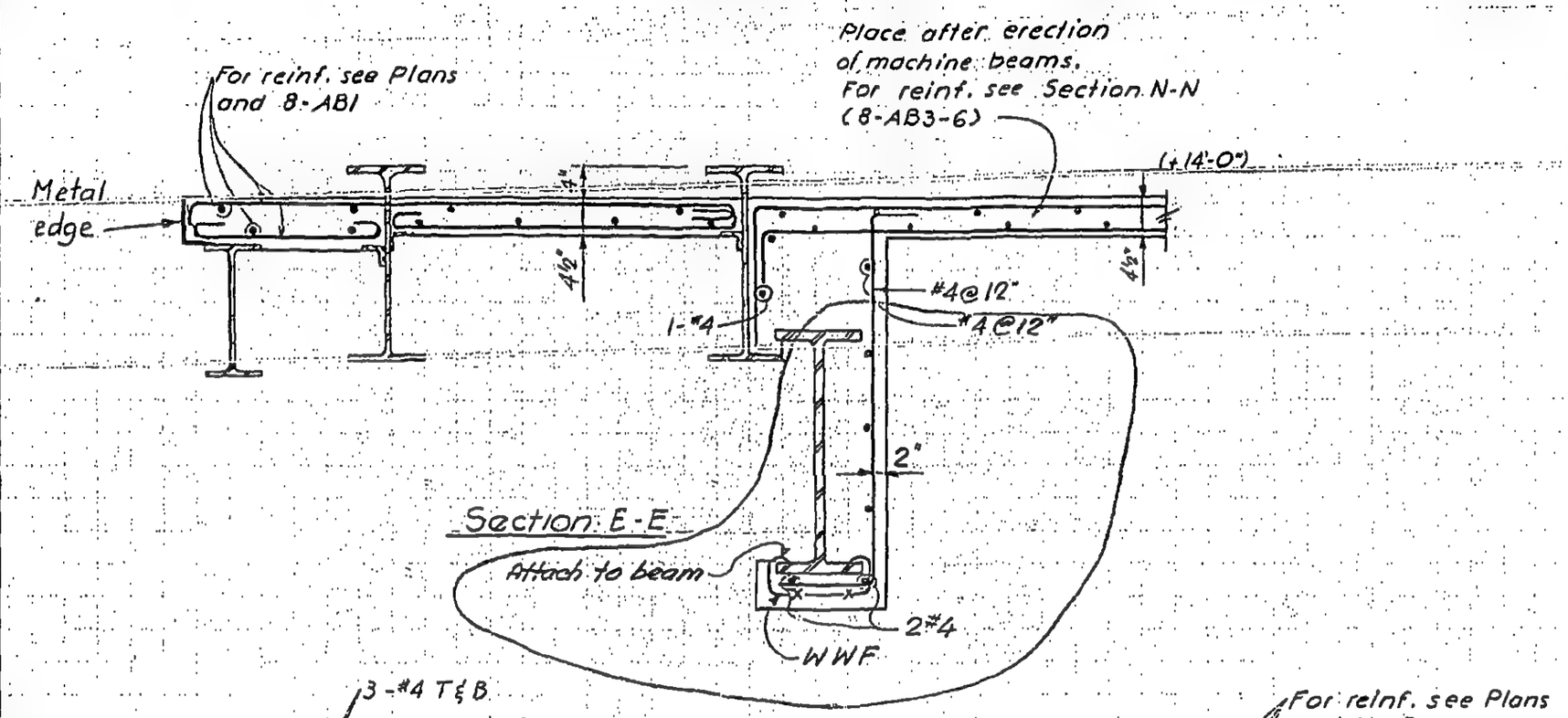
SKILLING - HELLE - CHRISTIANSEN - ROBERTSON — Structural & Civil Engineers

PROJECT: TIIE WORLD TRADE CENTER | TITLE: ELEVATOR PIT SECTIONS & DETAILS | DATE: 3-1-68

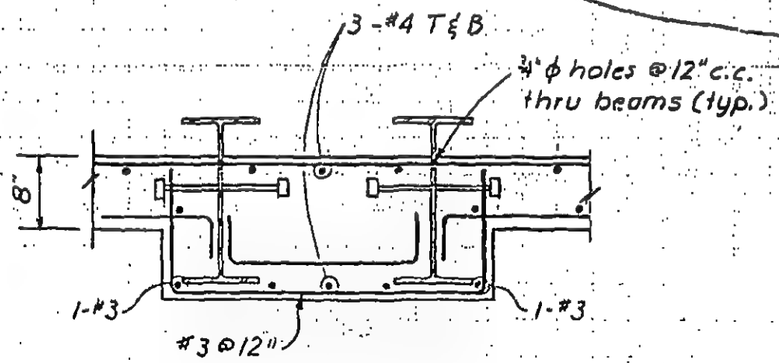
REVISIONS

8-20-68

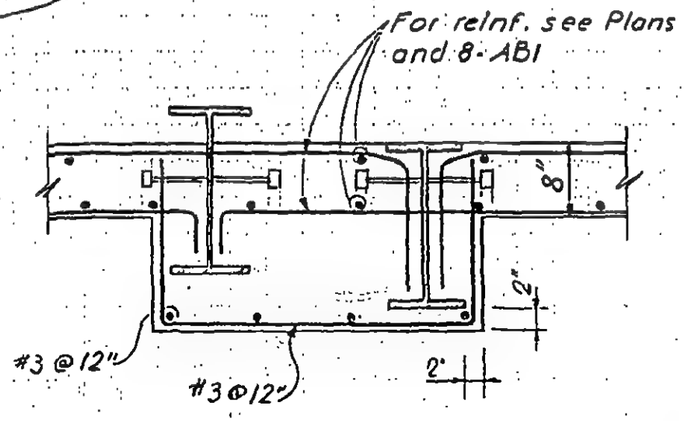
10-24-69



Section E-E



Section F-F



Section G-G

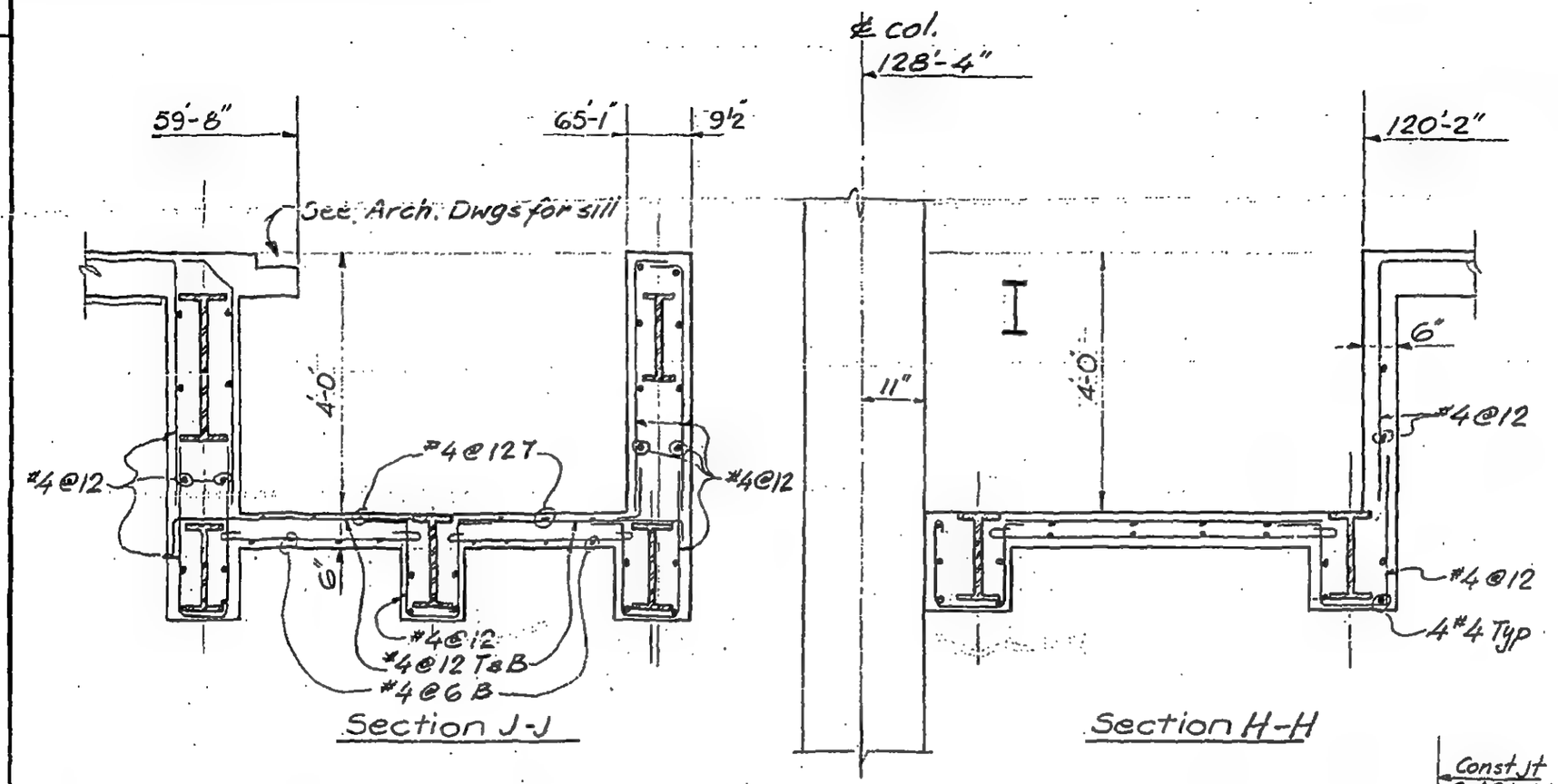
LICENSED PROFESSIONAL ENGINEER — LESLIE E. ROBERTSON — No. 34360 — UNIVERSITY OF THE STATE OF NEW YORK

8-AB3-8.2

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON -Structural & Civil Engineers

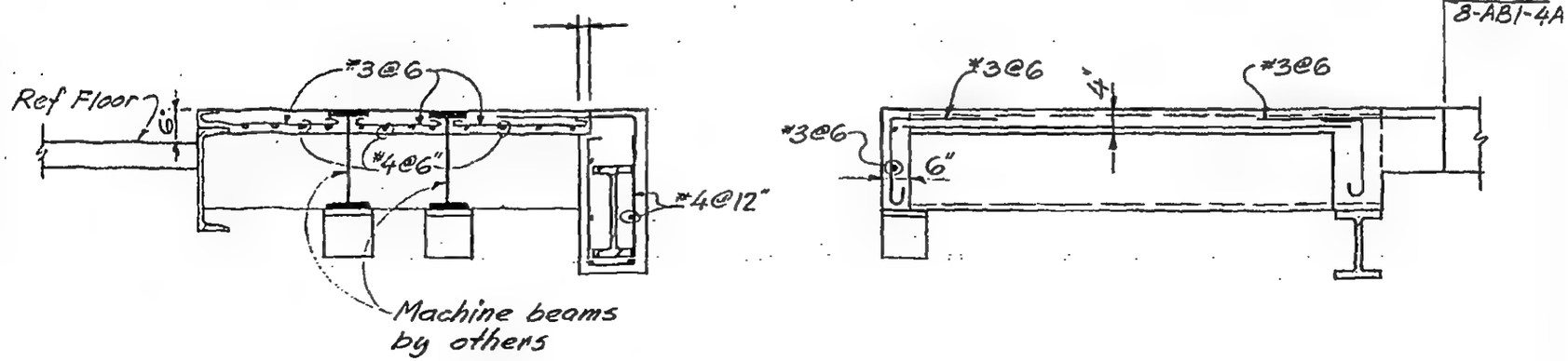
PROJECT THE WORLD TRADE CENTER | TITLE ELEVATOR PIT SECTIONS & DETAILS | DATE 10-24-69

REVISIONS



Section J-J

Section H-H



Section K-K

Section M-M

LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

DESIGNED

DRAWN
D. HUGGINS

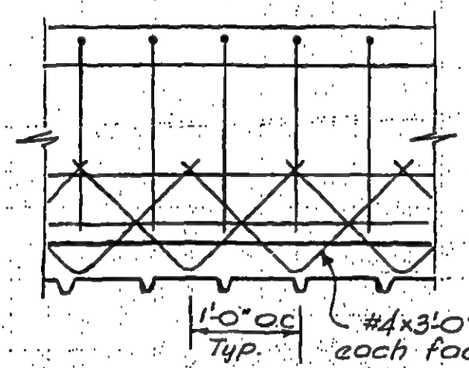
REVIEWED

8-AB3-8.3

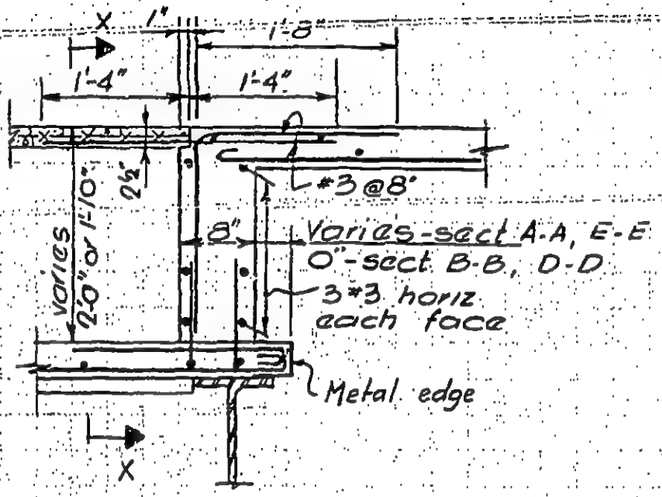
SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE SECTIONS AT FLOOR 107 | DATE 3-1-68

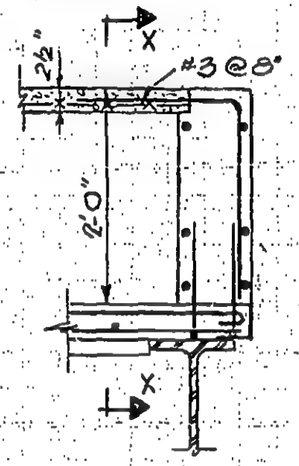
REVISIONS



Section X-X

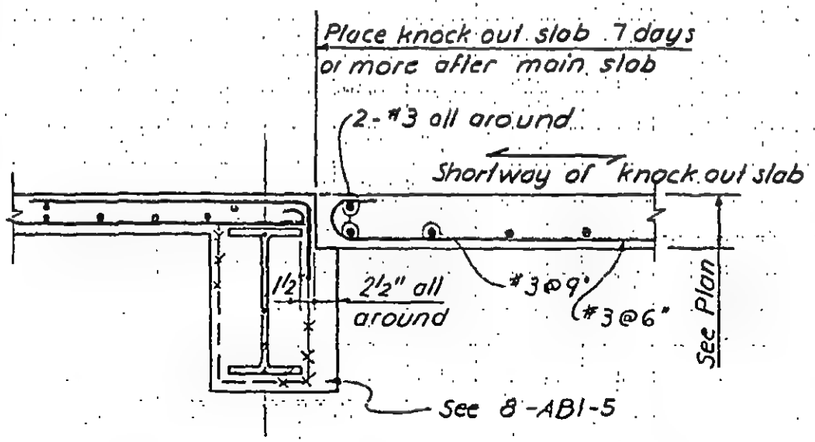


Section A-A, B-B, D-D, E-E

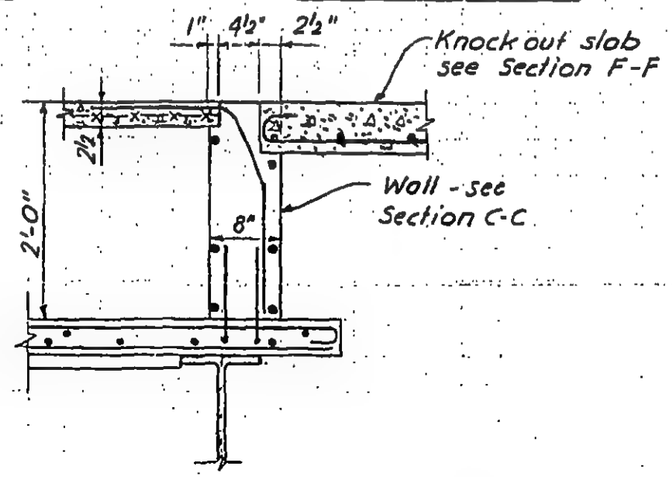


Reinf. and dimensions same as Sect. B-B unless noted

Section C-C



Section F-F



Section 6-6

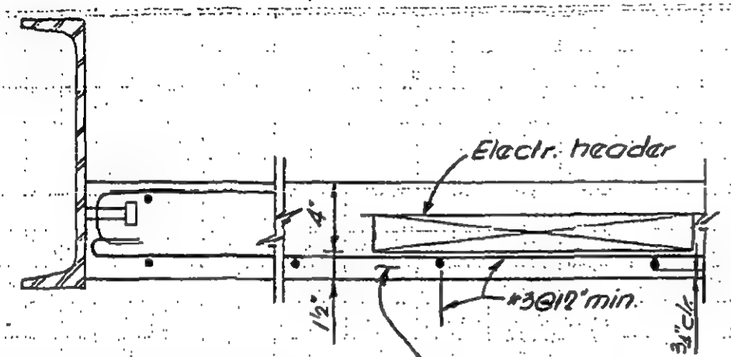
8-AB3-9

LICENSED PROFESSIONAL ENGINEER LESLIE E. ROBERTSON No. 34360 STATE OF NEW YORK

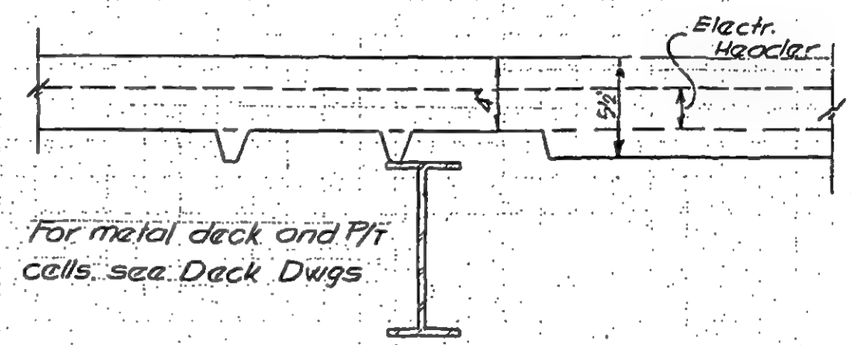
SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE DETAILS OF 5½" SLAB | DATE 3-1-68

REVISIONS



Place and thoroughly vibrate easily workable concrete under header; prevent pockets of air.



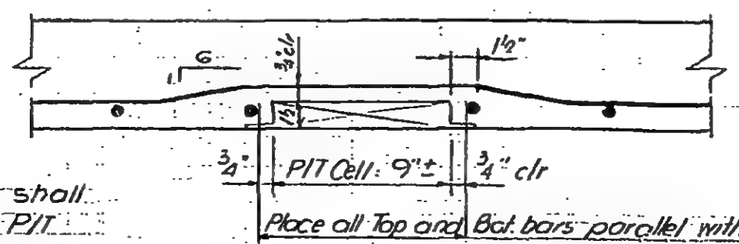
For metal deck and P/T cells see Deck Dwgs

Section C-C

For reinf. not shown see Plan and Typ. Details.

Section B-B

Reinf. not shown



Place all Top and Bot bars parallel with P/T Cell outside this strip

Note:
Total number of bars shall be determined as if P/T Cells did not exist; place bars clear of cells as shown.

Section A-A

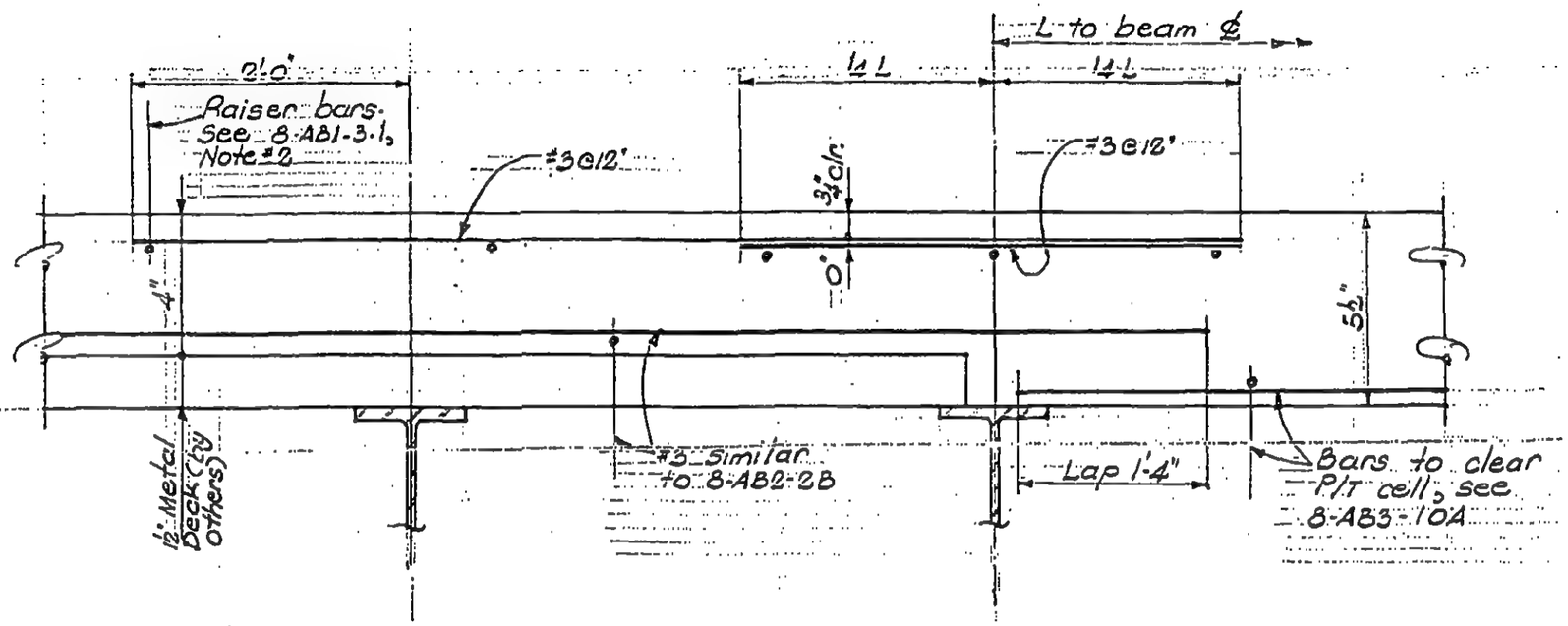
8-AB3-10.1

LICENSED PROFESSIONAL ENGINEER LESLIE E. ROBERTSON No. 34360 UNIVERSITY OF THE STATE OF NEW YORK

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE DETAILS OF 5½" SLAB | DATE 9-5-68

REVISIONS



Section D-D

LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

DESIGNED

DRAWN

REVIEWED

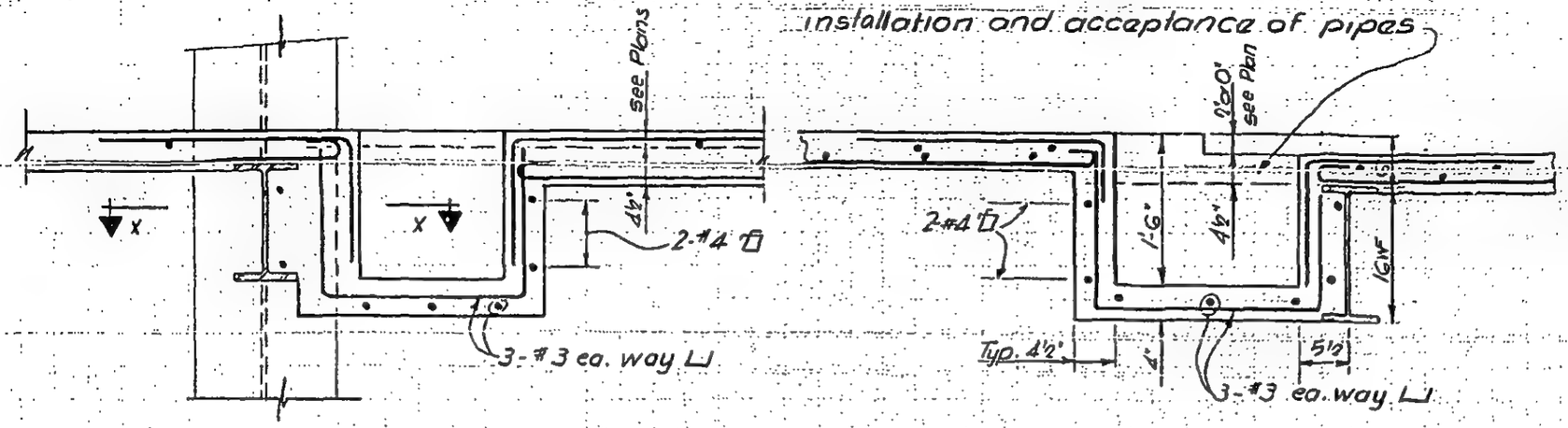
8-AB3-10.2

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON — Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE SUMP PITS | DATE 3-1-68

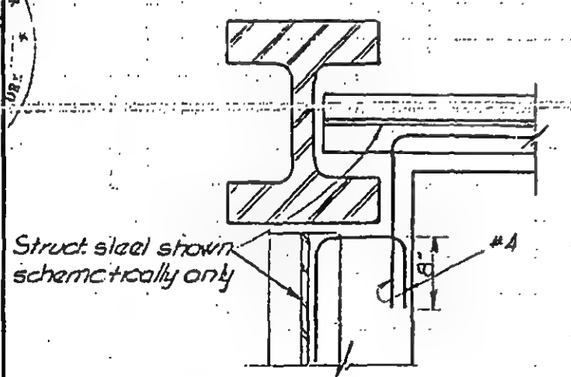
REVISIONS

Fill pit with concrete after installation and acceptance of pipes



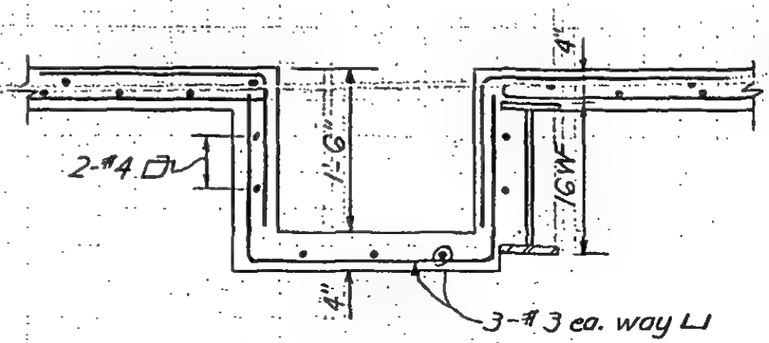
Section B-B

Section A-A



Section x-x

Detail of #4 tie where steel column occurs



Section C-C

LICENSED PROFESSIONAL ENGINEER LESLIE E. ROBERTSON No. 34360 UNIVERSITY OF THE STATE OF NEW YORK

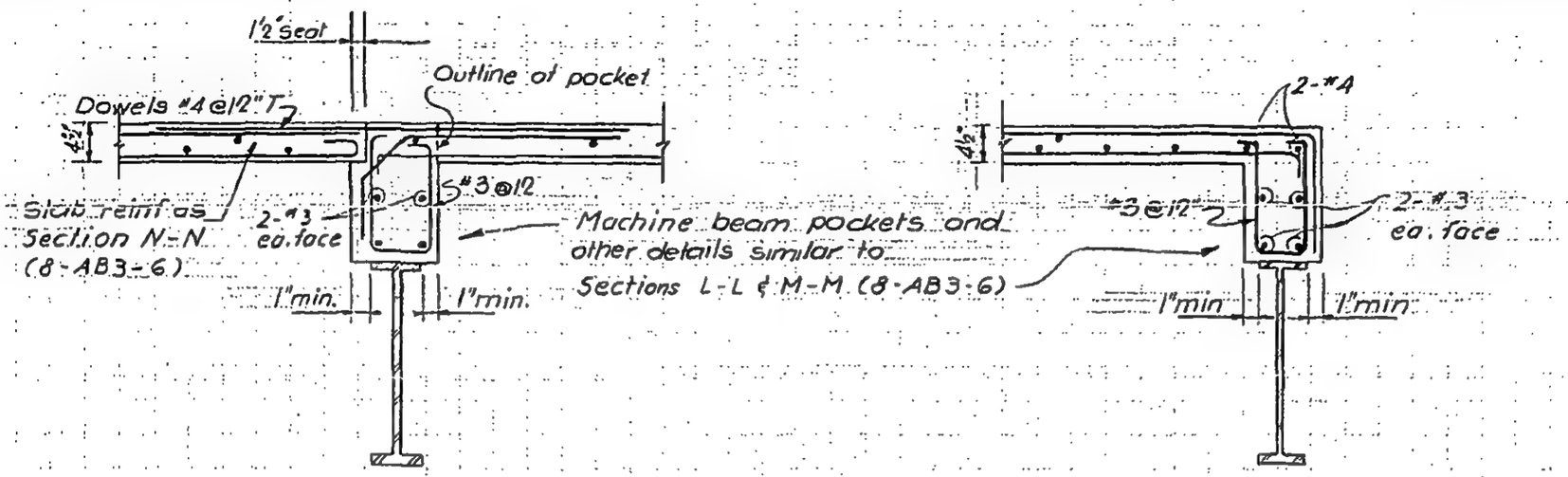
8-AB3-11

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE SECTIONS AT FLOORS 42, 76 | DATE 3-1-68

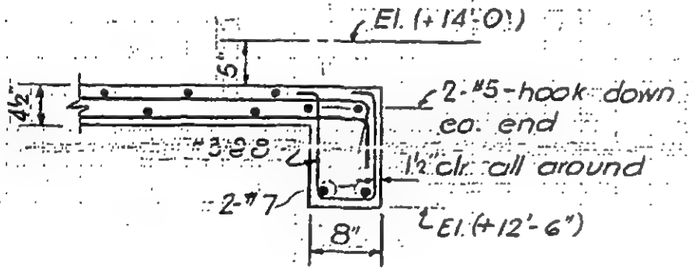
REVISIONS

12-1-70

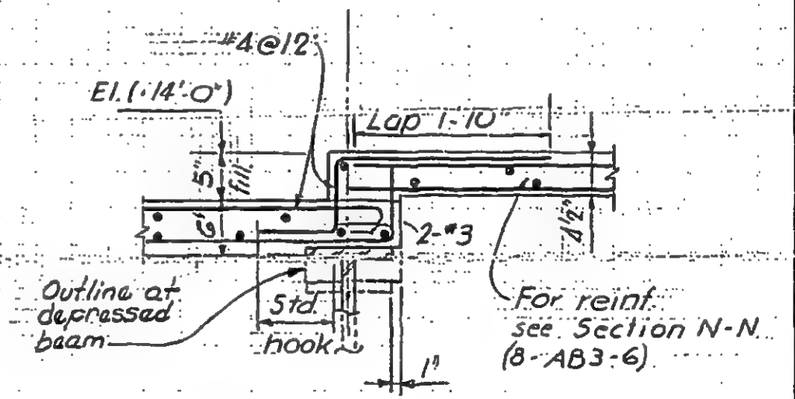


Section A-A

Section B-B



Section C-C



Section D-D

LICENSED PROFESSIONAL ENGINEER LESLIE E. ROBERTSON No. 34360 UNIVERSITY OF THE STATE OF NEW YORK

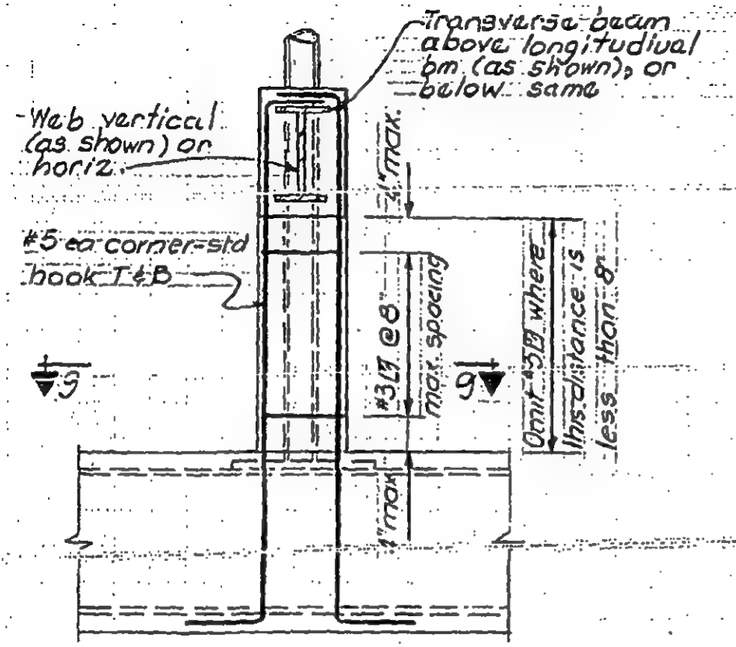
8-AB3-12.1

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

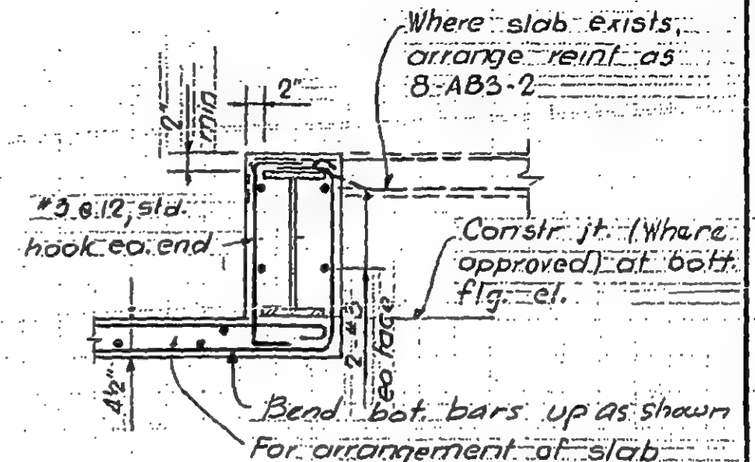
PROJECT THE WORLD TRADE CENTER | TITLE SECTIONS AT FLOORS 42, 76, 109 | DATE 3-1-68

REVISIONS

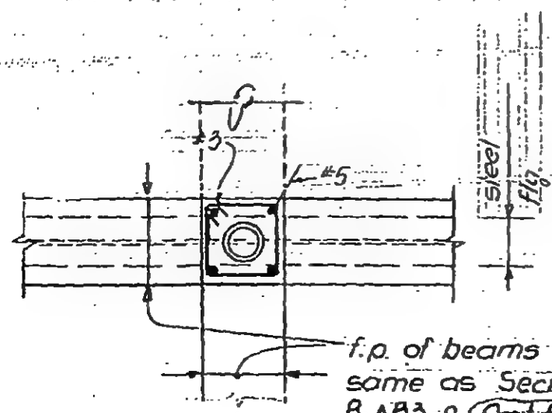
1-28-69



Section E-E



Section F-F



Section 9-9

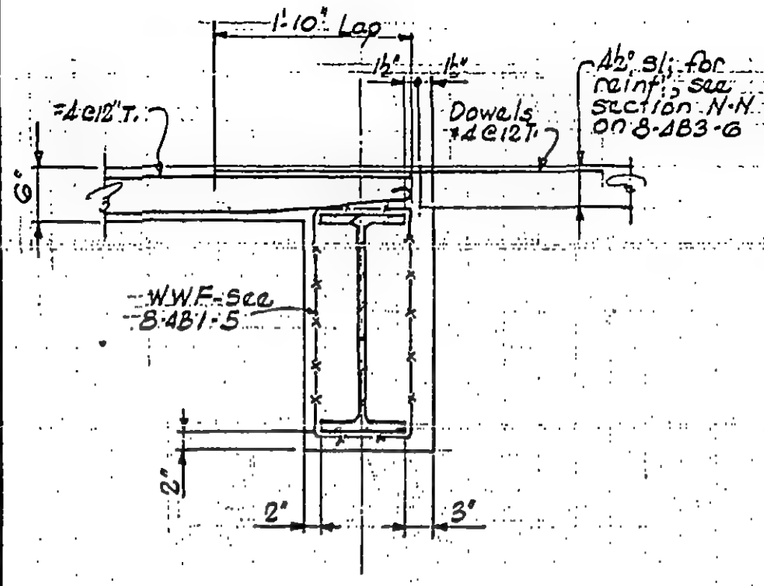
LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

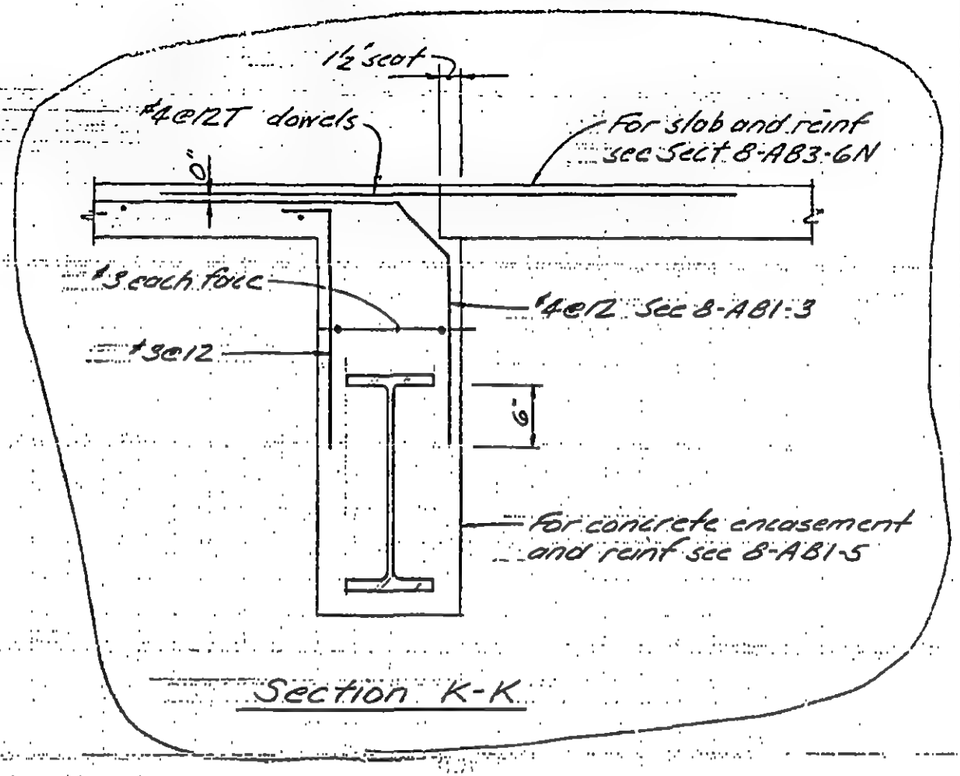
PROJECT THE WORLD TRADE CENTER | TITLE SECTIONS AT FLOORS 42, 76, 108, 109 | DATE 3-1-68

REVISIONS

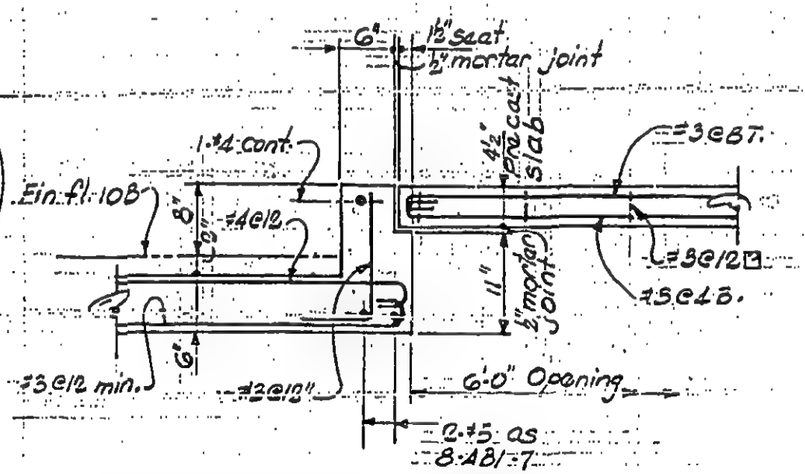
5/31/68
10-24-69



Section H-H



Section K-K



Section J-J

Required - 6 slabs 25½" wide; lay with ½" mortar joints
Provide 2 lifting eyes in each precast slab
Eyes shall not project above finish slab

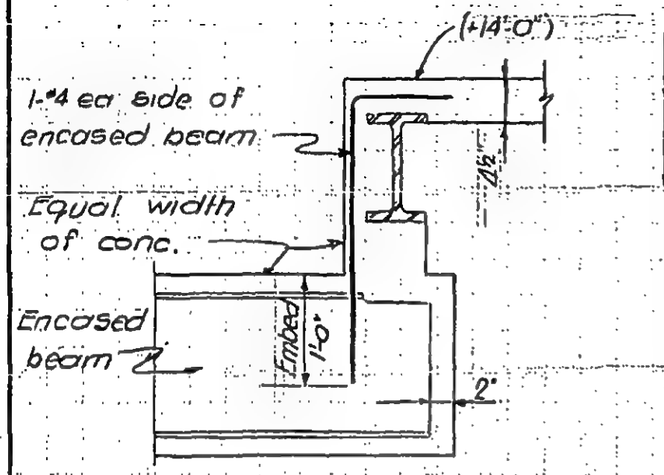
LICENSED PROFESSIONAL ENGINEER LESLIE E. ROBERTSON No. 34360 UNIVERSITY OF THE STATE OF NEW YORK

8-AB3-12.3

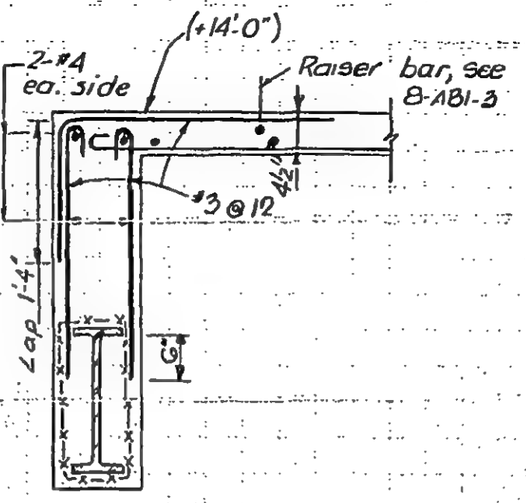
SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE SECTIONS AT FLOOR 8. | DATE 3-1-68

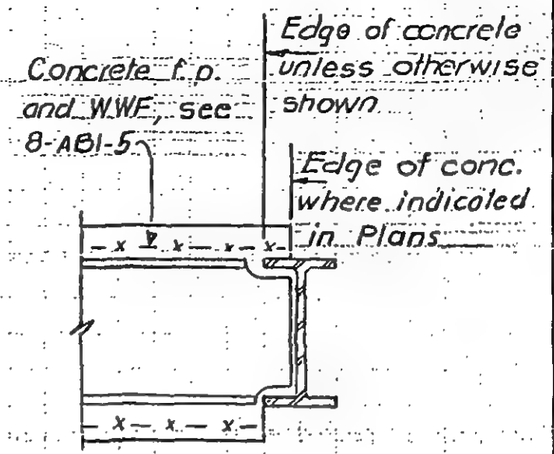
REVISIONS



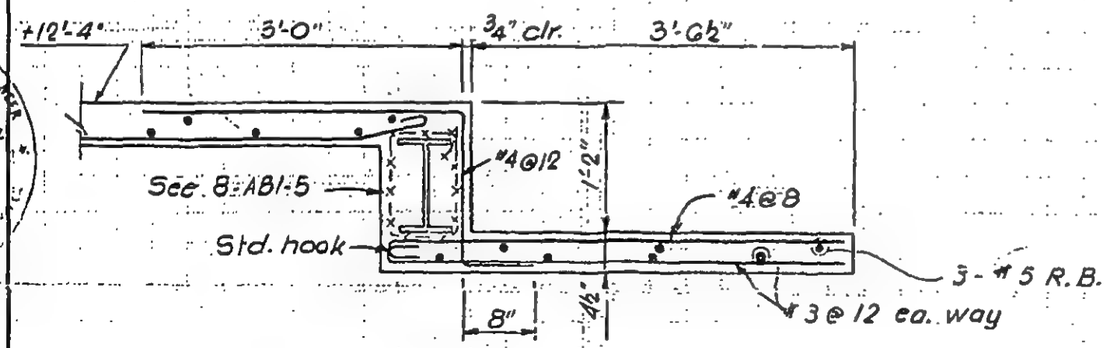
Section A-A



Section B-B



Section C-C



Section D-D

LICENSED PROFESSIONAL ENGINEER LESLIE E. ROBERTSON No. 34360 UNIVERSITY OF THE STATE OF NEW

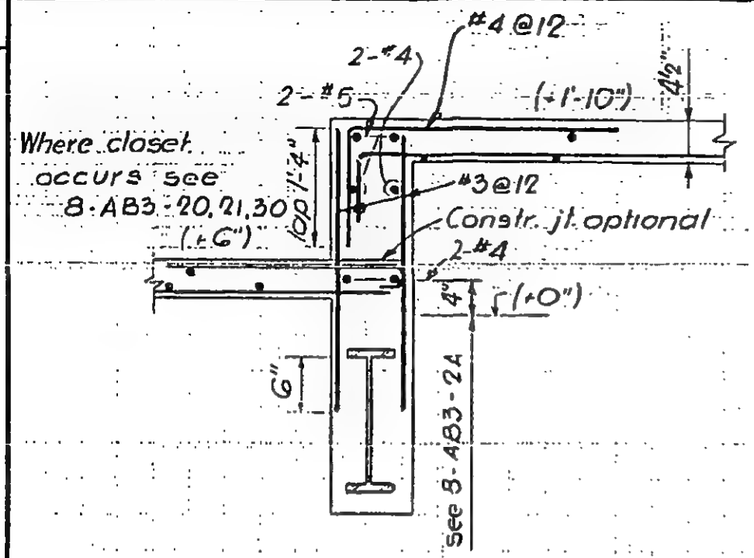
8-AB3-13

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON — Structural & Civil Engineers

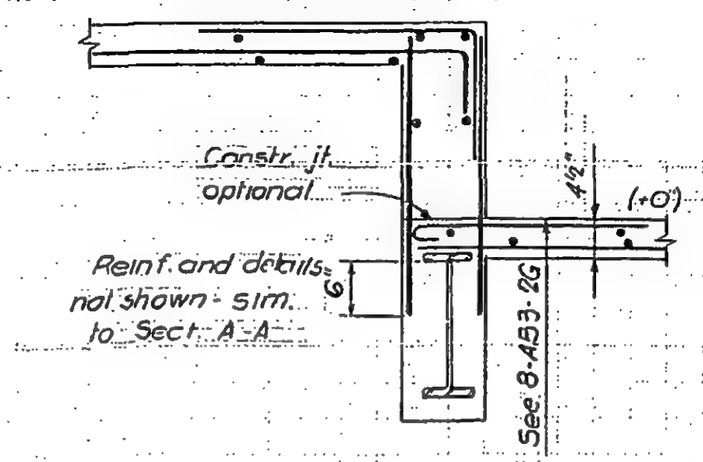
PROJECT THE WORLD TRADE CENTER | TITLE SECTIONS AT SECONDARY LEVELS OF SHUTTLE ELEVRS | DATE 3-1-68

REVISIONS

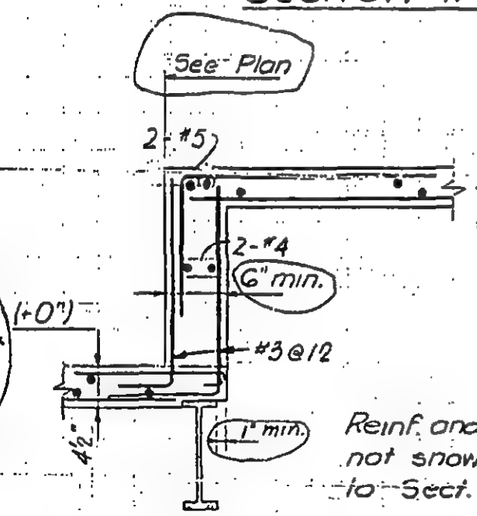
1-28-69



Section A-A

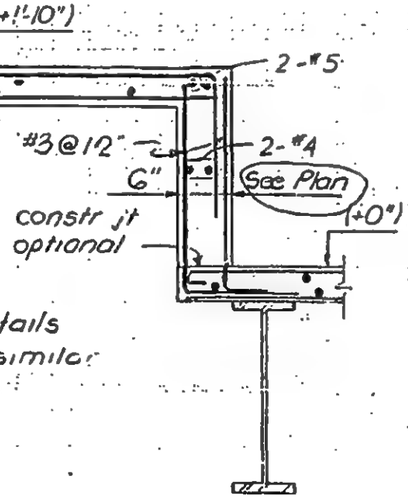


Section B-B

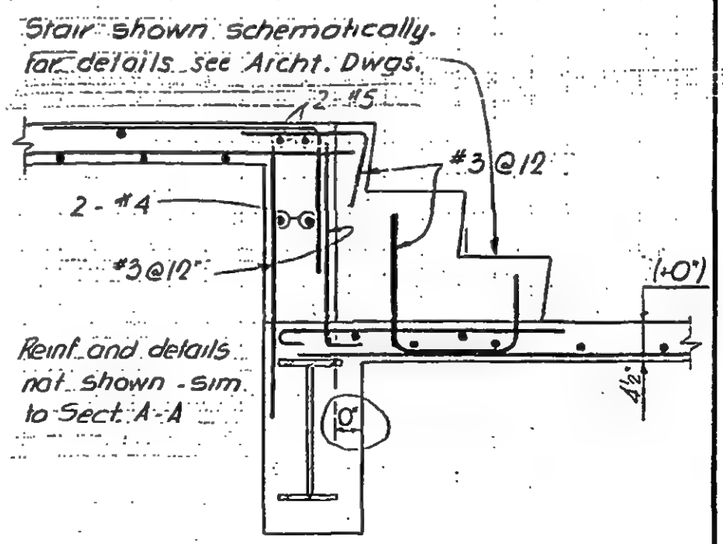


Reinf. and details not shown - similar to Sect. A-A

Section C-C



Section D-D



Section E-E

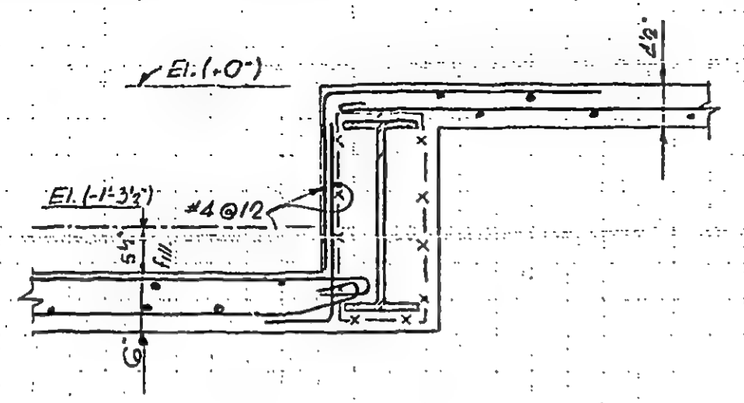
LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

8-AB3-14

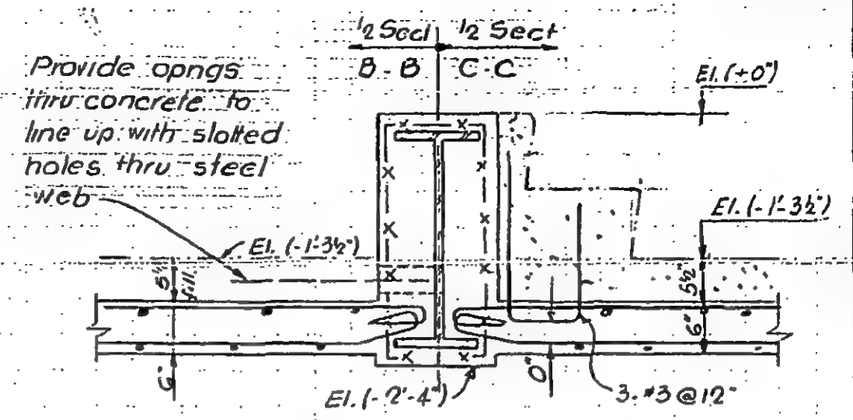
SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE SECTIONS AT SHUTTLE ELEVATOR CONTROL SPACES | DATE 3-1-68

REVISIONS



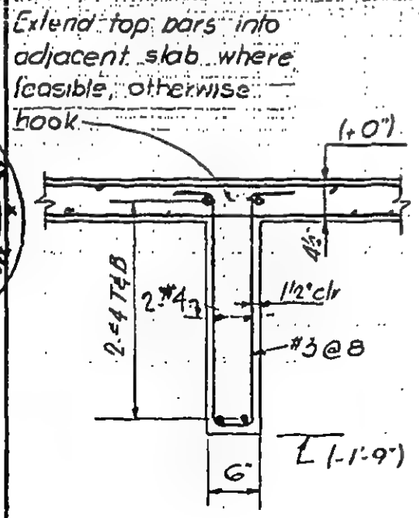
Section A-A



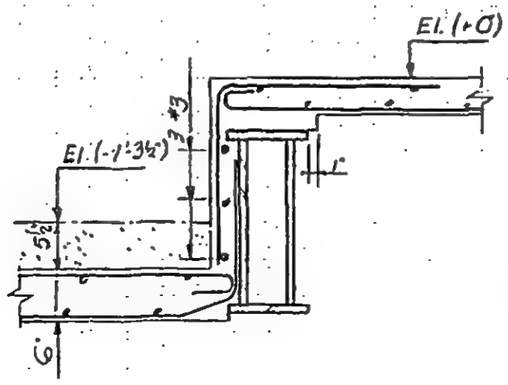
Section B-B and C-C

Note to Sects. C-C and G-G

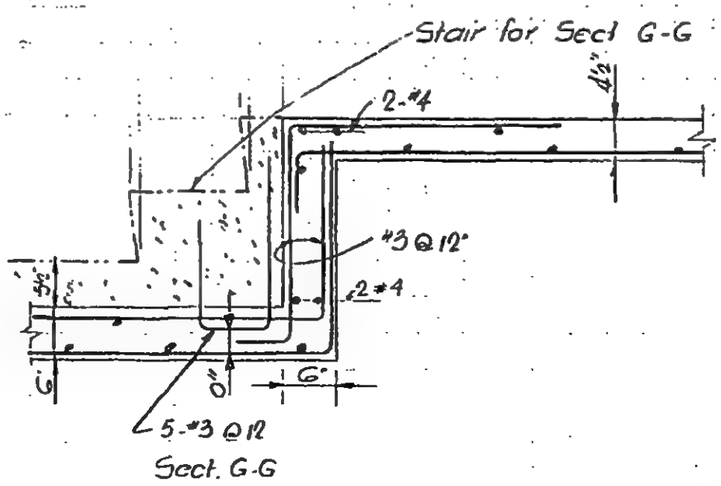
Stairs are shown schematically.
For details see Archt Dwgs



Section D-D



Section E-E



Sect. G-G

Section F-F and G-G

LICENSED PROFESSIONAL ENGINEER LESLIE E. ROBERTSON No. 34360 UNIVERSITY OF THE STATE OF NEW YORK

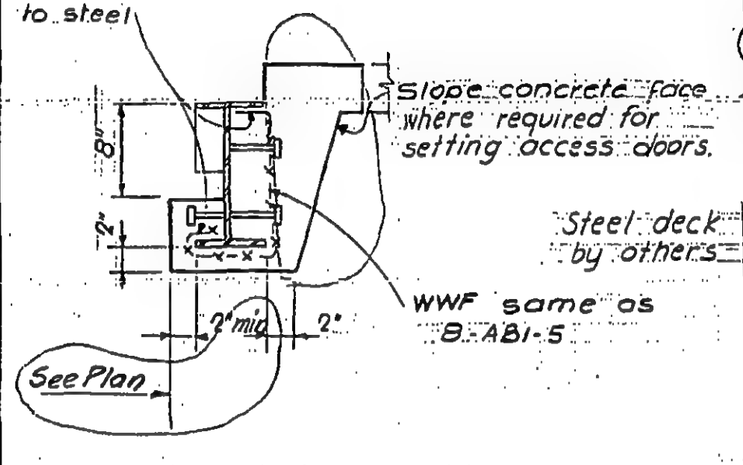
8-AB3-15

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

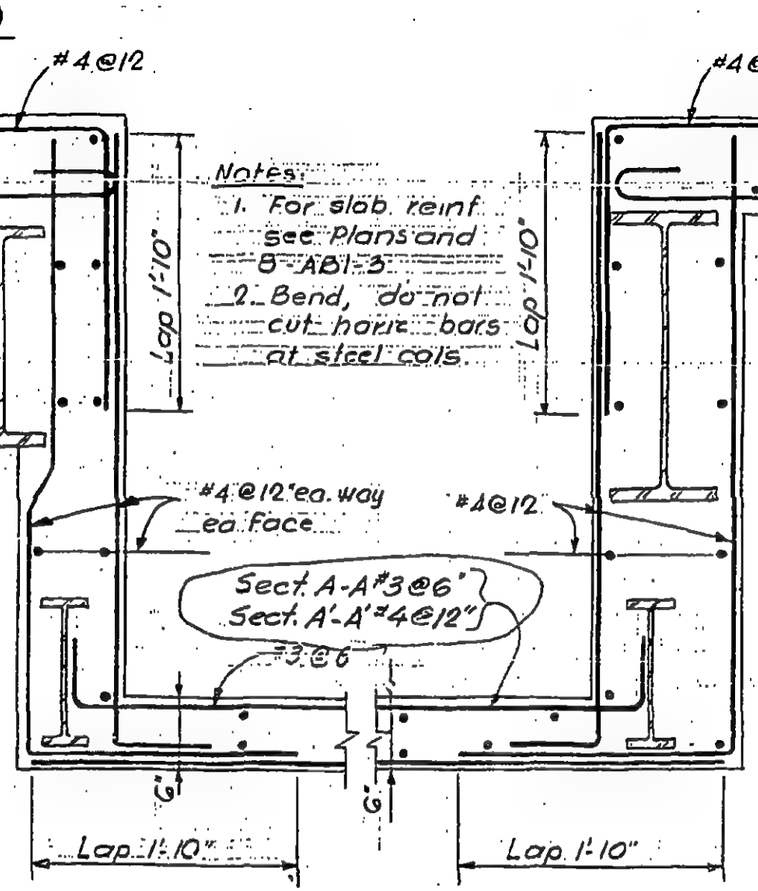
PROJECT THE WORLD TRADE CENTER | TITLE SECTIONS AT ESCALATOR PITS | DATE 3-1-68

REVISIONS

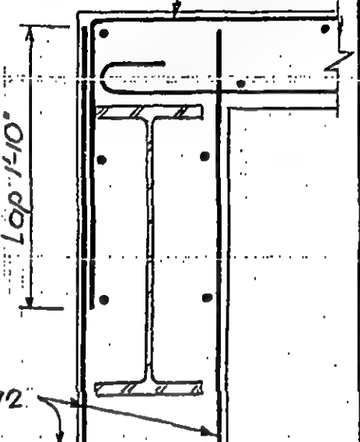
1-28-69
10-24-69



Section H-H



Notes:
1. For slab reinf see Plans and 8-AB1-3
2. Bend, do not cut horiz bars at steel cols.



Section B-B Section A-A

Section A'-A' as noted

Note: For Plans see SCA-143
For Slab bet. access doors - see SCA-143

LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

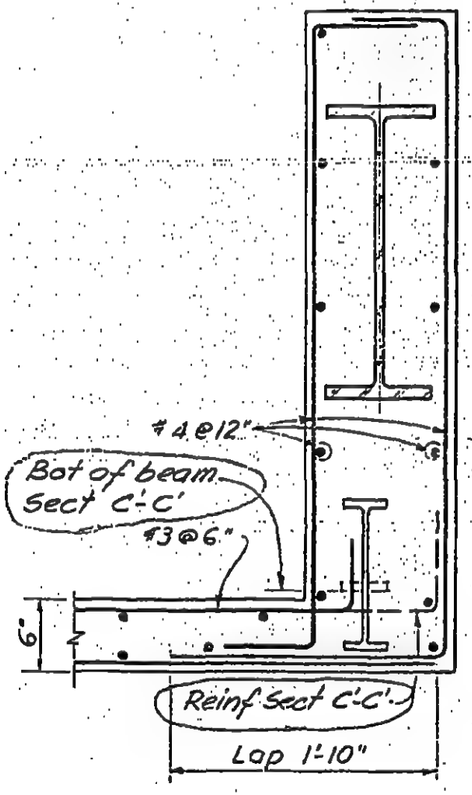
8-AB3-10.1

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

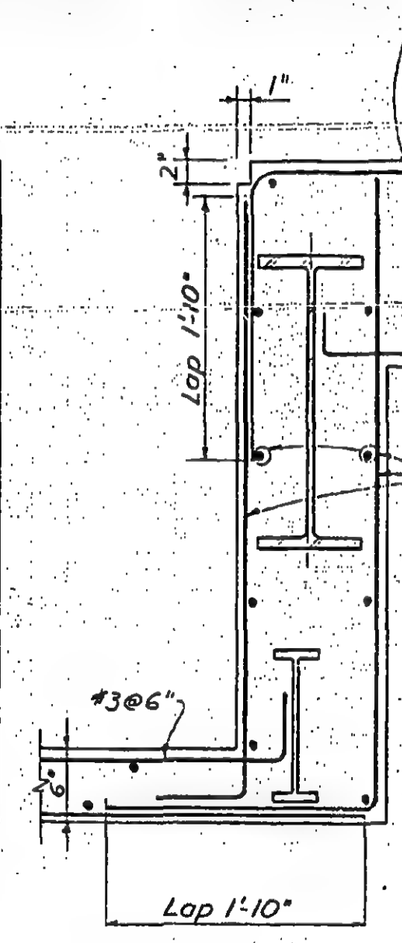
PROJECT THE WORLD TRADE CENTER | TITLE SECTIONS AT ESCALATOR PITS | DATE 3-1-68

REVISIONS

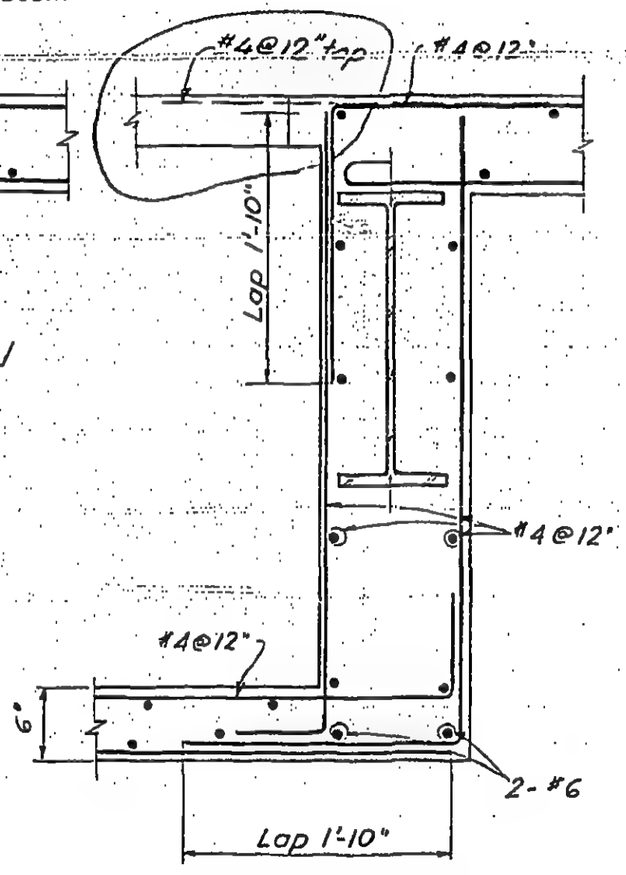
10-24-69



Section C-C
Section C'-C' as noted



Section D-D



Section E-E

Note:
For Plans see SCA-143

8-AB3-16.2

LICENSED PROFESSIONAL ENGINEER
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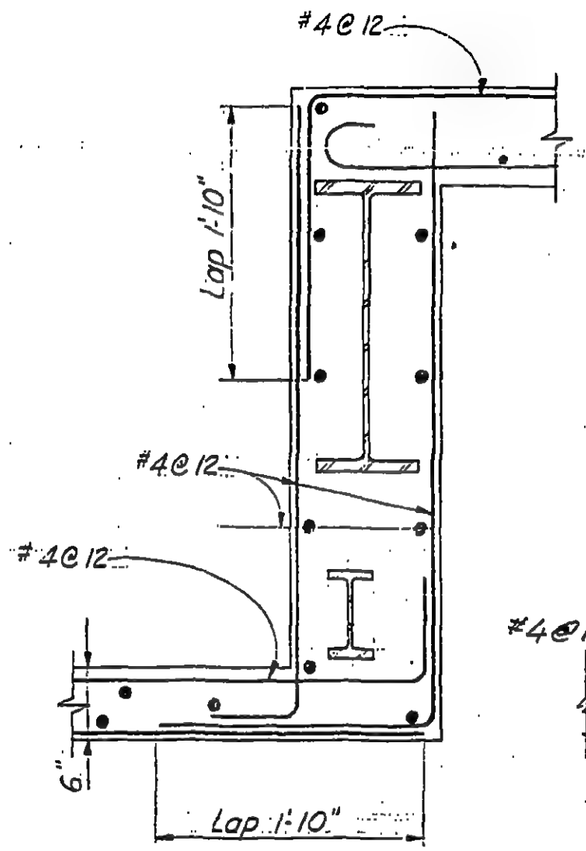
No. 34360
THE STATE OF NEW YORK

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

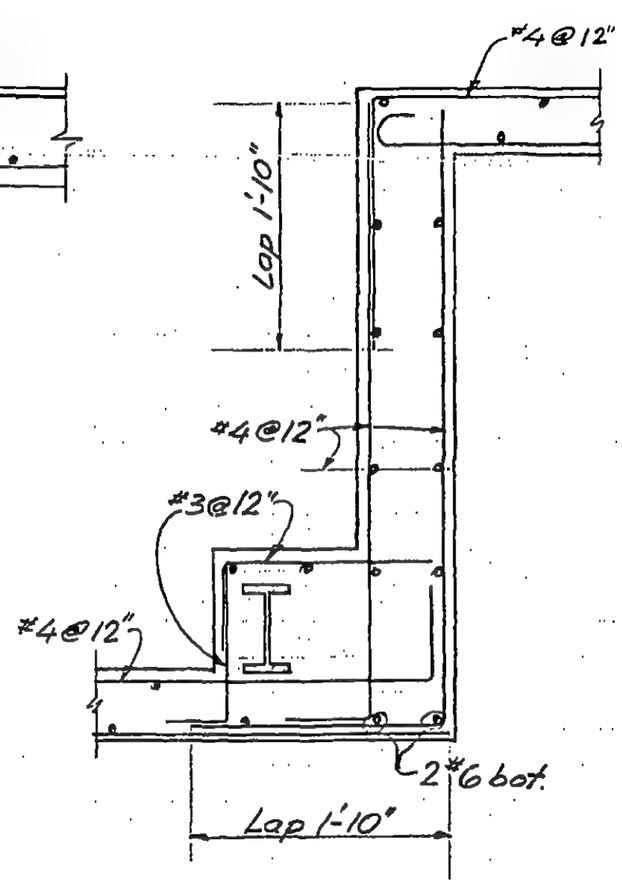
PROJECT THE WORLD TRADE CENTER | TITLE SECTIONS AT ESCALATOR PITS | DATE 3-1-68

REVISIONS

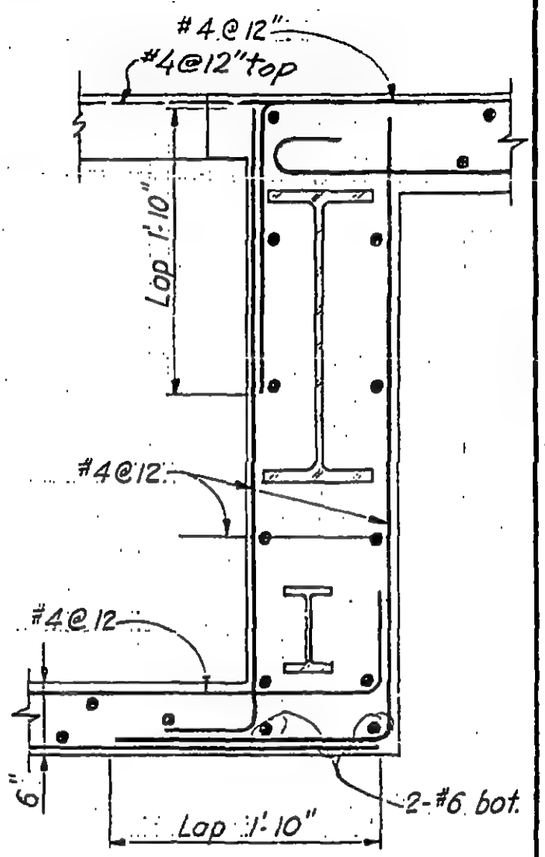
10-24-69



Section F-F



Section J-J



Section G-G

Note: For Plans, see SCA-143

8-AB3-16.3

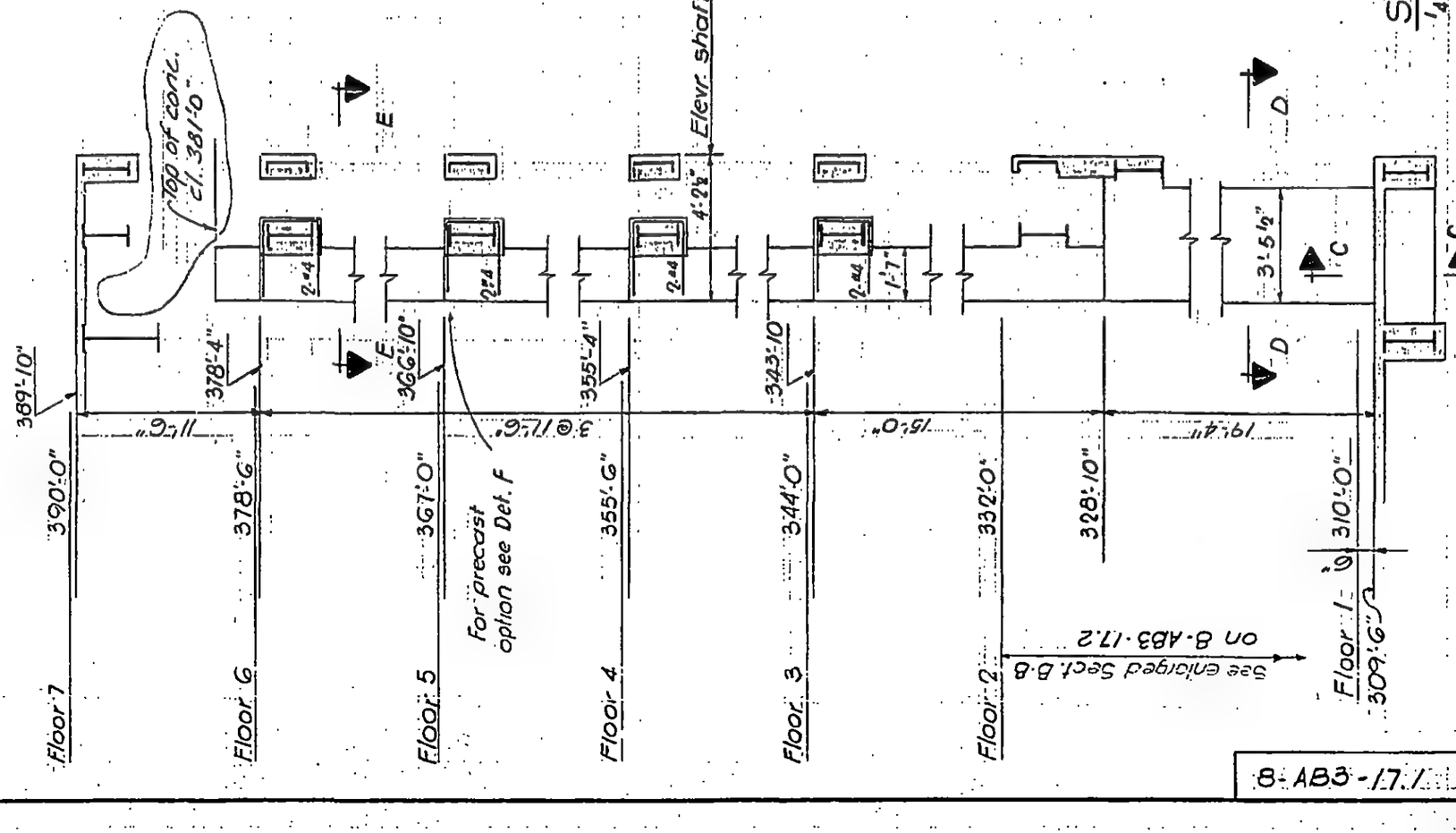
LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE CONCRETE BACKING TO MARBLE | DATE 3-1-68

REVISIONS

4-23-69



LICENSED PROFESSIONAL ENGINEER
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No. 34360
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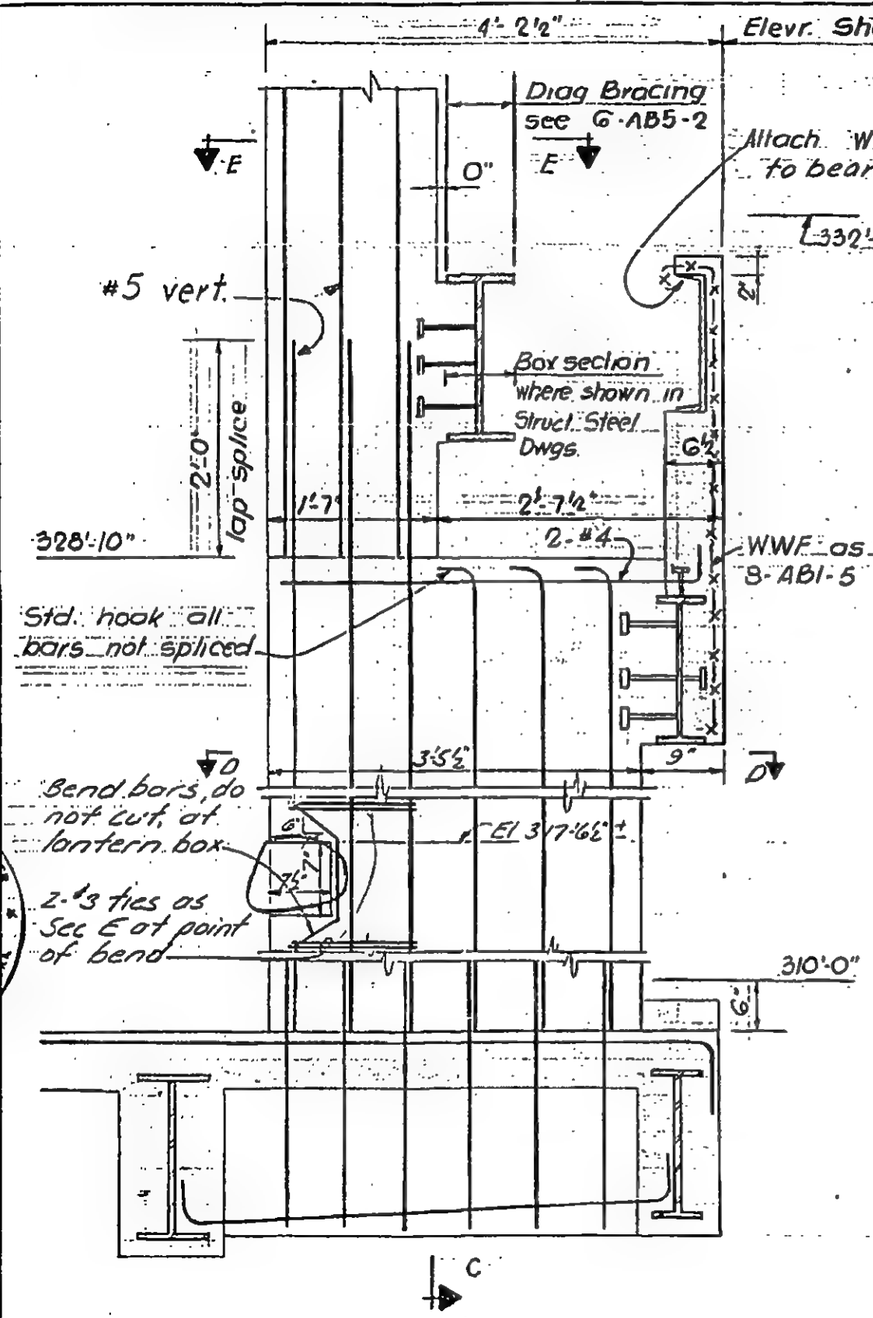
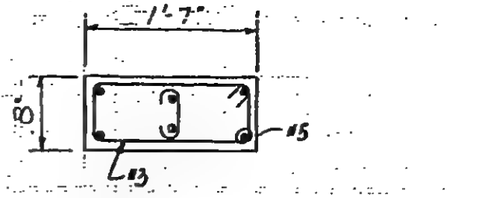
SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

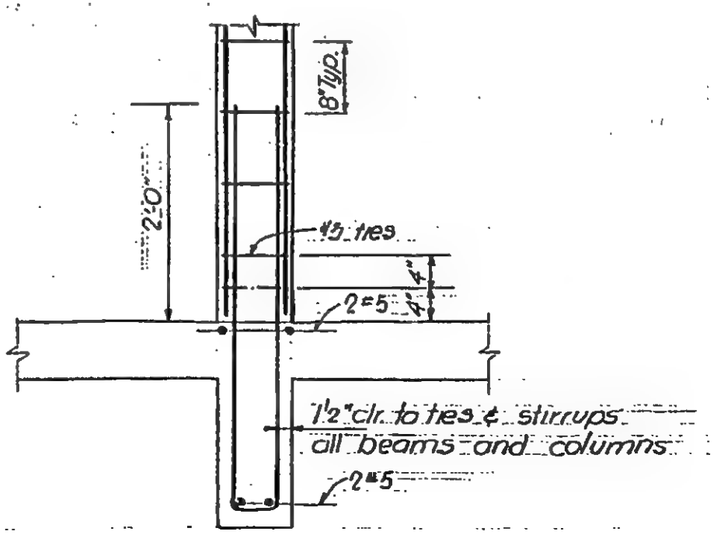
PROJECT THE WORLD TRADE CENTER | TITLE CONCRETE BACKING TO MARBLE | DATE 3-1-68

REVISIONS
4-23-69
5-15-69





For dovetail slots, inserts and other features see Archt. Sections A/266 & C/266 and other Archt. Dwgs.



8-AB3-17.2

LICENSED PROFESSIONAL ENGINEER
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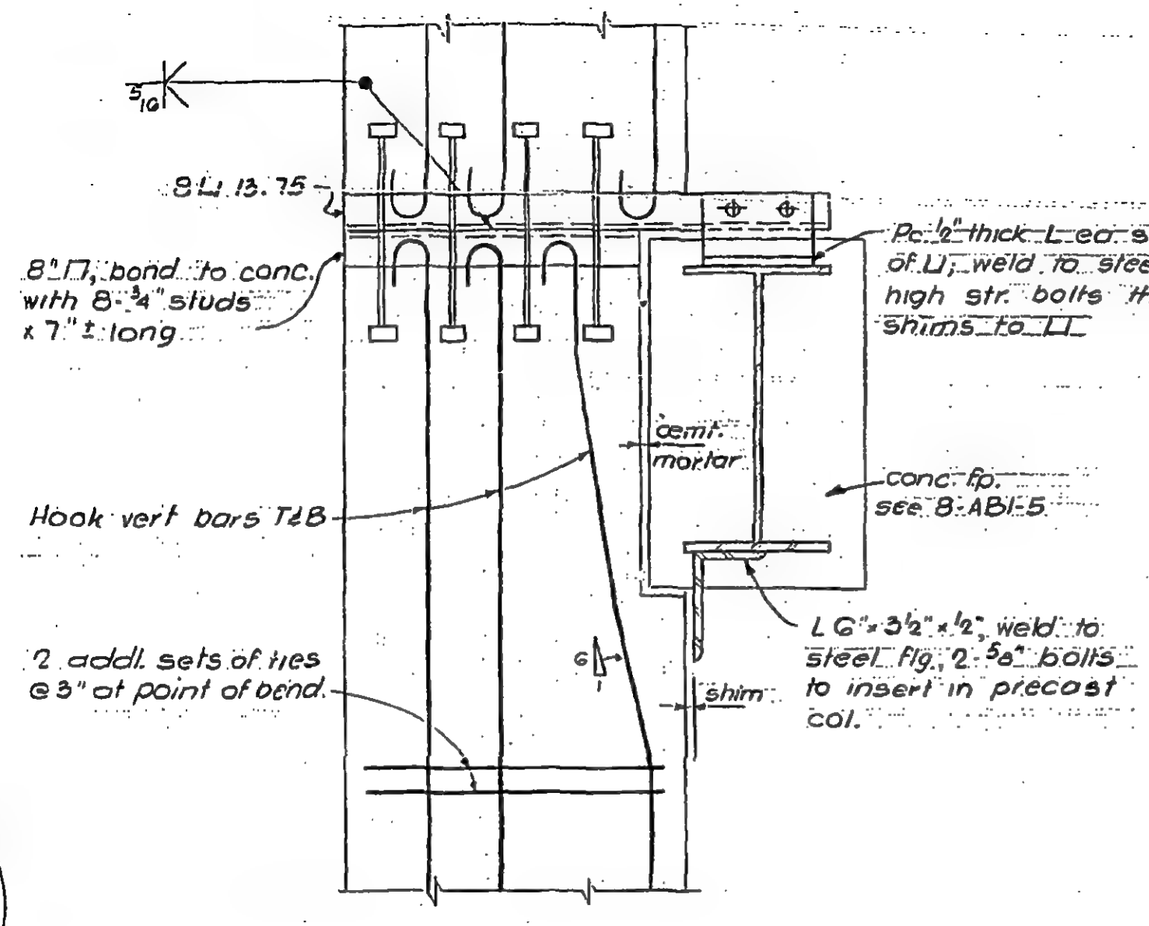
No. 34360
LICENSED BY THE STATE OF NEW YORK

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE CONCRETE BACKING TO MARBLE | DATE 3-1-68

REVISIONS



Detail F -- Precast Option

If the precast option is chosen by Contractor, he shall submit full details of all connections, for Engineer's approval before construction. Methods differing from that shown above may be submitted if desired.

LICENSED PROFESSIONAL ENGINEER LESLIE E. ROBERTSON No. 34360 UNIVERSITY OF THE STATE OF NEW YORK

8-AB3-17.3

LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
STATE OF NEW YORK
UNIVERSITY OF THE

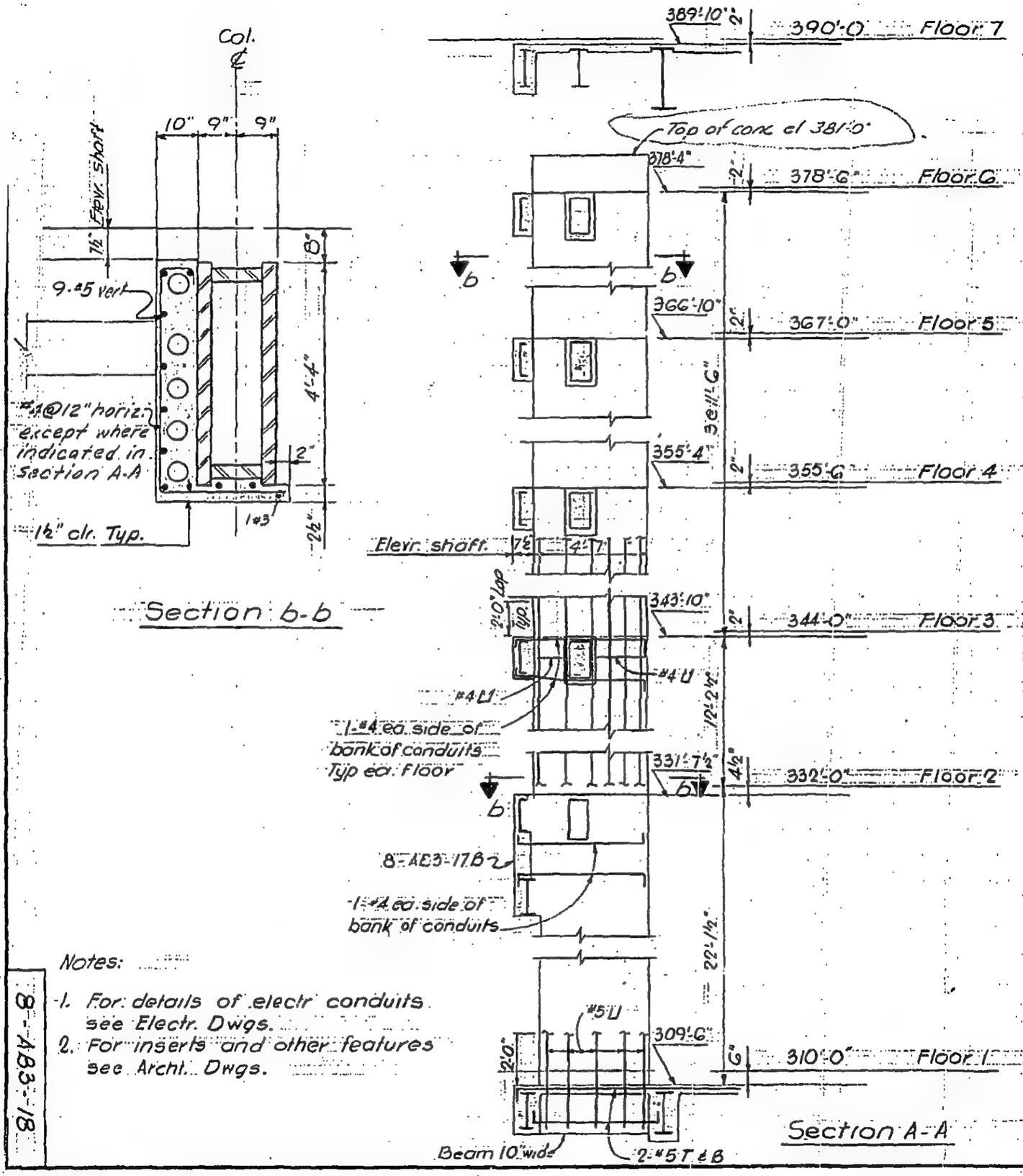
REVISIONS
4-23-69

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER

TITLE CONCRETE ENCASEMENT TO ELECTR. CONDUITS

DATE 3-1-68



Notes:

1. For details of electr conduits see Electr. Dwgs.
2. For inserts and other features see Archt. Dwgs.

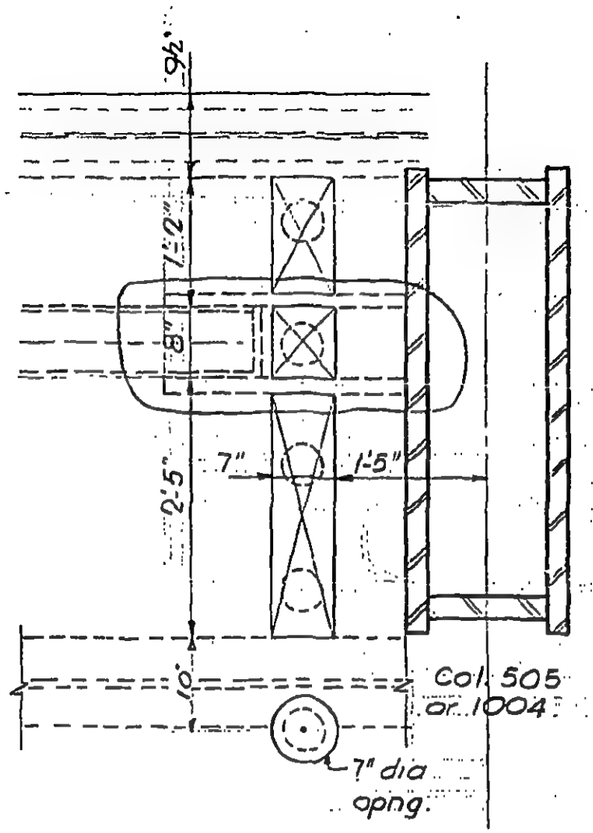
8-ABB-18

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

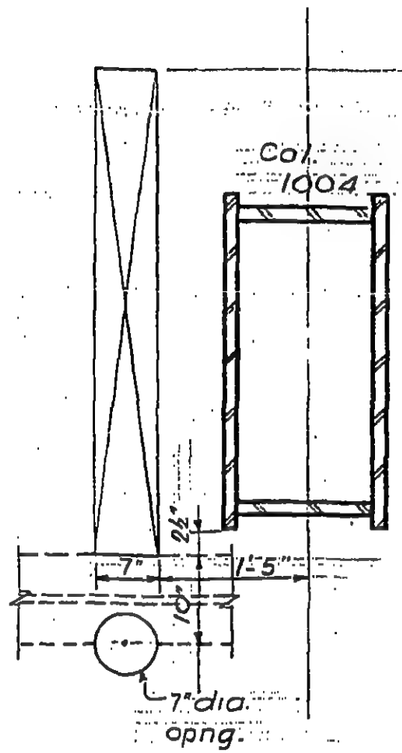
PROJECT THE WORLD TRADE CENTER | TITLE OPNGS. FOR PRIMARY ELECTR CONDUITS | DATE 3-1-68

REVISIONS

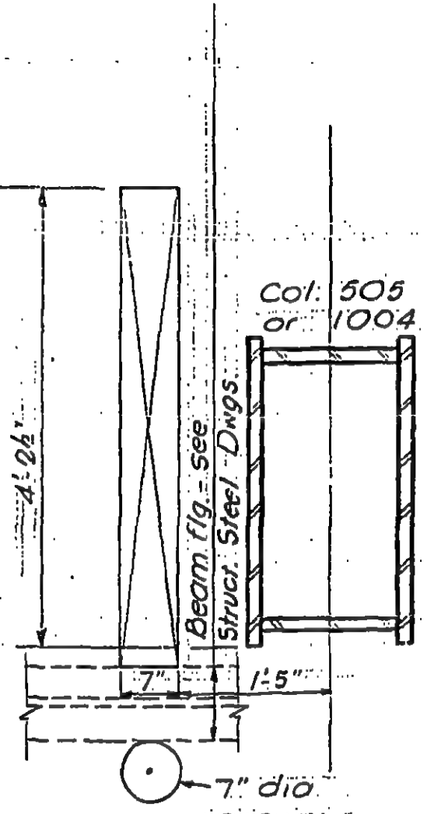
1-28-69
2-11-69



Detail A
Floor 7



Detail B
Floor 75



Detail C
Floor 76

Note to Details A, B, C and D

Fill around conduits with concrete

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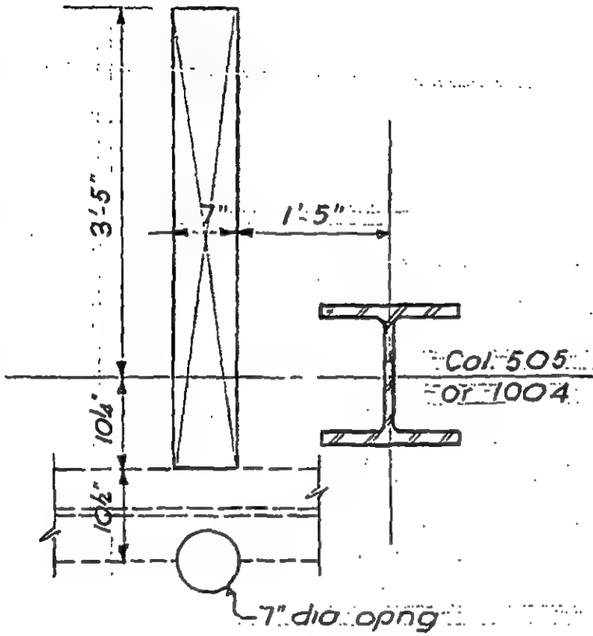
UNIVERSITY OF THE STATE OF NEW YORK

8-AB3-19.1

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE OPENINGS FOR PRIMARY ELECTR. CONDUITS | DATE 3-1-68

REVISIONS



Detail D

Floor 108

LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
LICENSED BY THE STATE OF NEW YORK

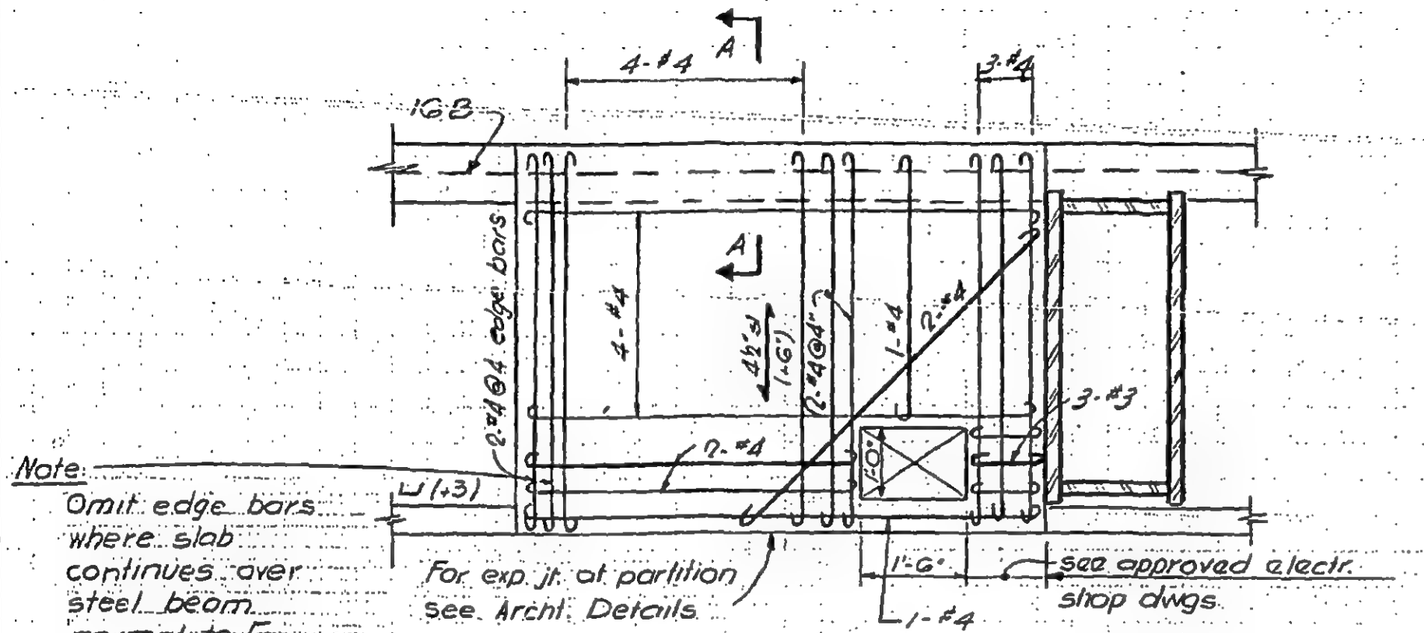
8-A83-19.2

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON — Structural & Civil Engineers

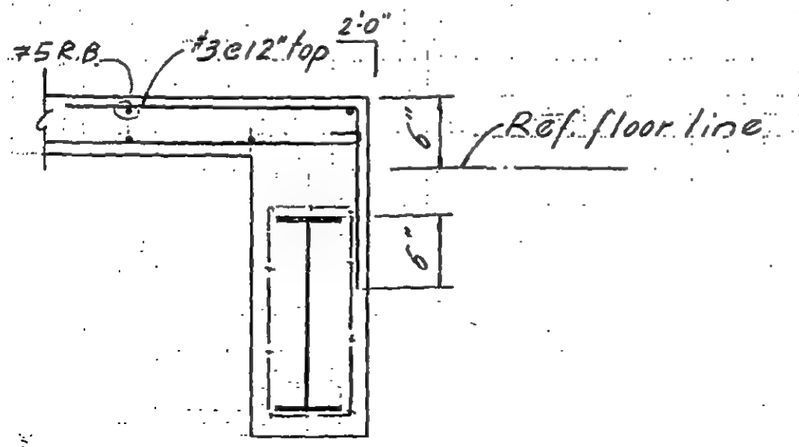
PROJECT THE WORLD TRADE CENTER | TITLE TELEPHONE CLOSET (AT COL 506 & 1003) AT EL. (+6") | DATE 3-1-68

REVISIONS

3-24-69



Note
Omit edge bars where slab continues over steel beam normal to E



Section A-A

Notes
1. Top bars shown in General Detail 8-AB1-3 not required over E
2. USE DETAIL WITH ONE SLOT (THIS SHEET) OR WITH TWO SLOTS (SHEET 8-AB3-20.2) AS REQUIRED ON APPROVED ELECTRICAL SHOP DRAWINGS

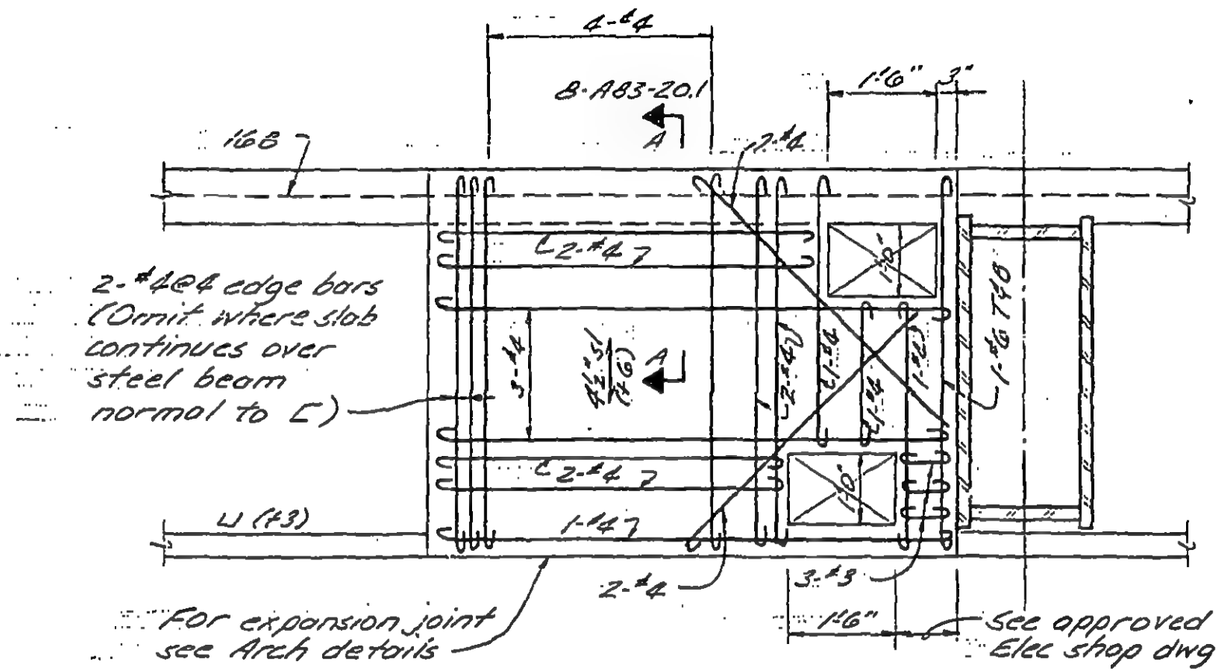
LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

8-AB3 (20.1)

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

PROJECT: THE WORLD TRADE CENTER | TITLE: TELEPHONE CLOSET AT COL 506 & 1003 AT EL (16) | DATE: 3-24-69

REVISIONS



For notes see Sheet B-AB3-20.1

LICENSED PROFESSIONAL ENGINEER — LESLIE E. ROBERTSON — No. 34360 — UNIVERSITY OF THE STATE OF NEW YORK

DESIGNED: A.L.A.

DRAWN:

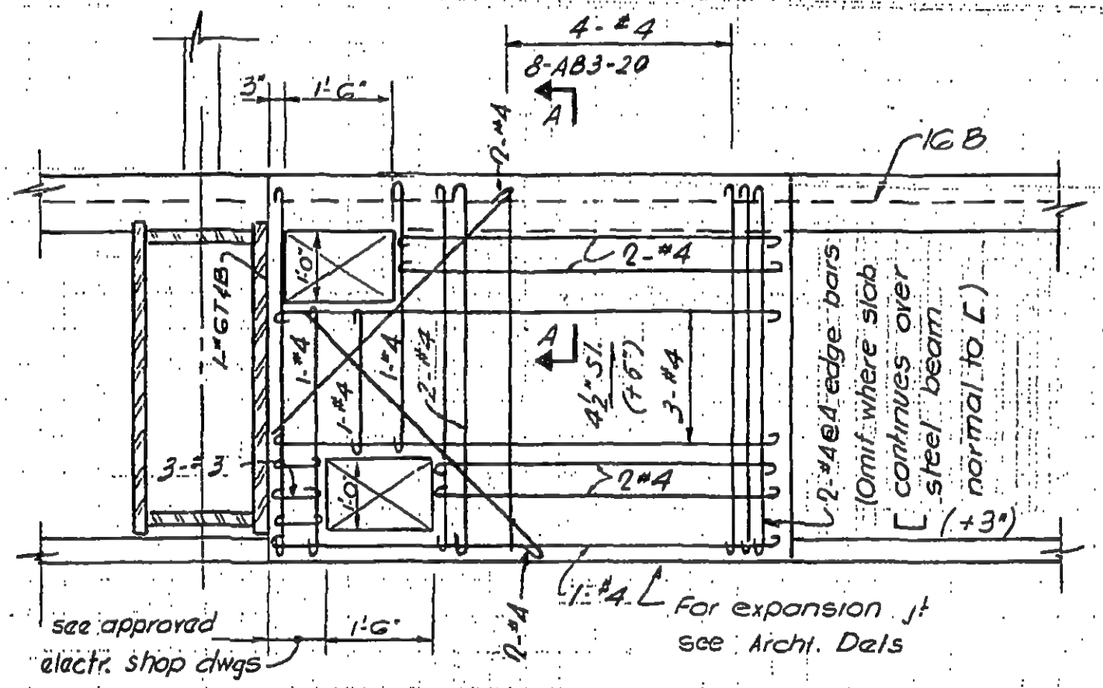
REVIEWED:

B-AB3-20.2

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE TELEPHONE CLOSET WITH 2-OPNGS, AT EL. (+6") | DATE 3-1-68

REVISIONS



Notes:

1. Top bars shown in General Detail 8-AB1-3 not required over L

LICENSED PROFESSIONAL ENGINEER
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No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

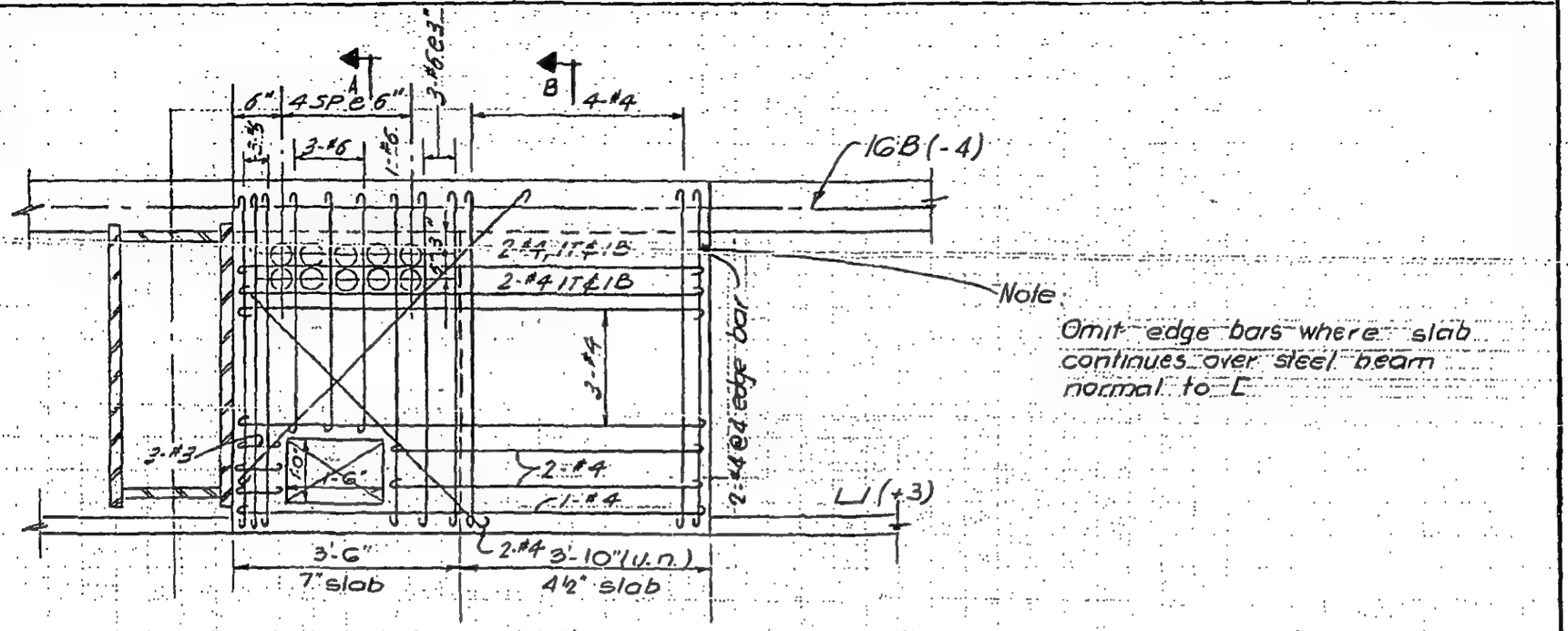
8-AB3-21

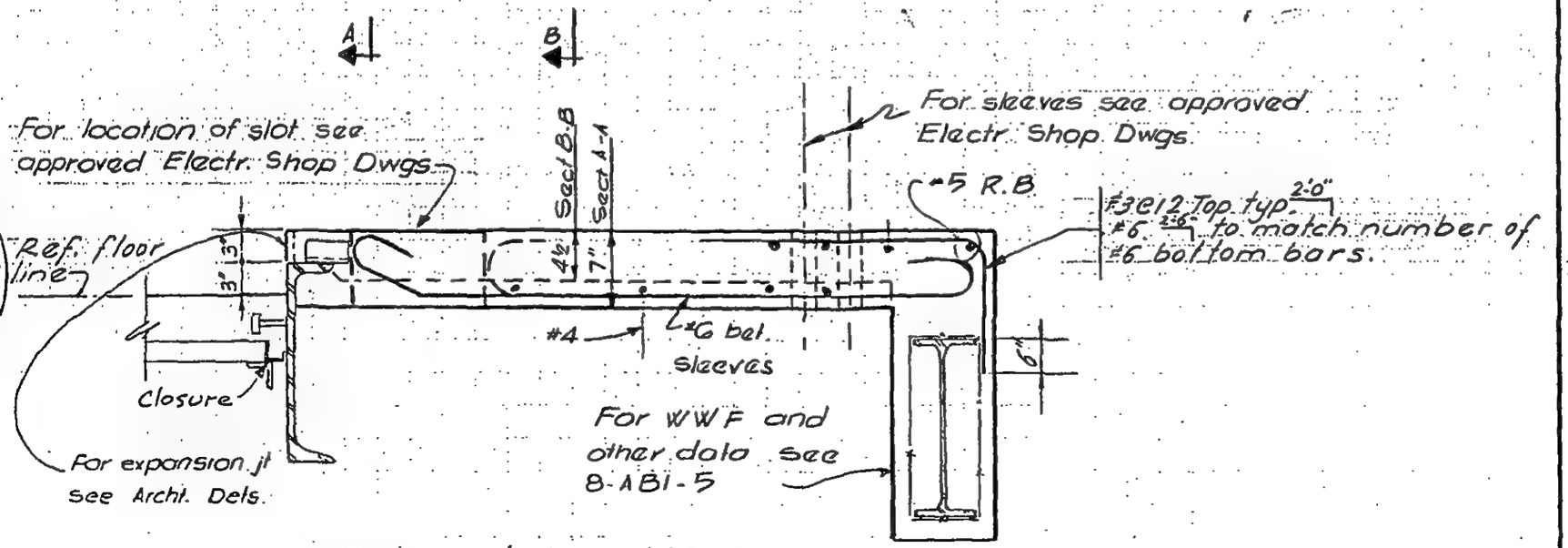
SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE TELEPHONE CLOSET WITH SLEEVES AT EL. (+6") | DATE 3-7-68

REVISIONS

RE-NUMBERED 4-7-69





Section A-A and B-B

(Section B-B shown thus: _____)

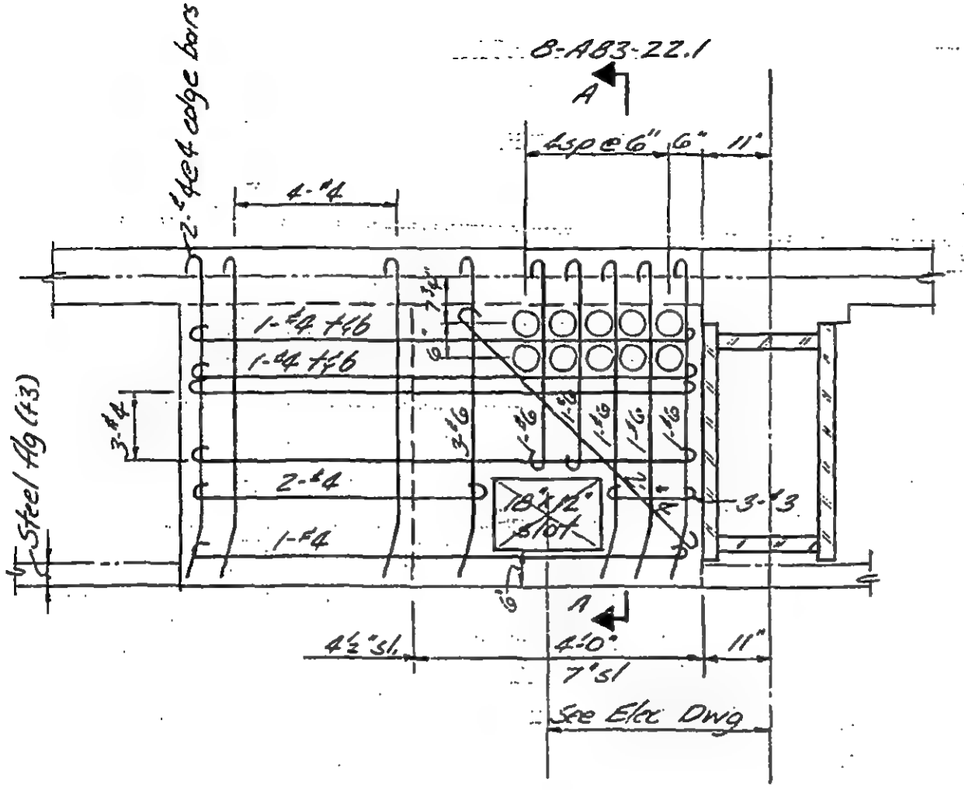
LICENSED PROFESSIONAL ENGINEER LESLIE E. ROBERTSON No. 34360 UNIVERSITY OF THE STATE OF NEW YORK

8-AB3-22.1

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

PROJECT: THE WORLD TRADE CENTER | TITLE: TELEPHONE CLOSET WITH SLEEVES AT (+6) | DATE: 4-7-69

REVISIONS



NOTES

1. Floor 67 at Col 506 shown. Other locations similar; for modifications see Plans. Where slab continues, extend longitudinal bars and omit edge bars.
2. For top bars not shown see Sect A-A, B-B on B-AB3-22.1

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DESIGNED: A.L.A.
DRAWN: J. Adams
REVIEWED:

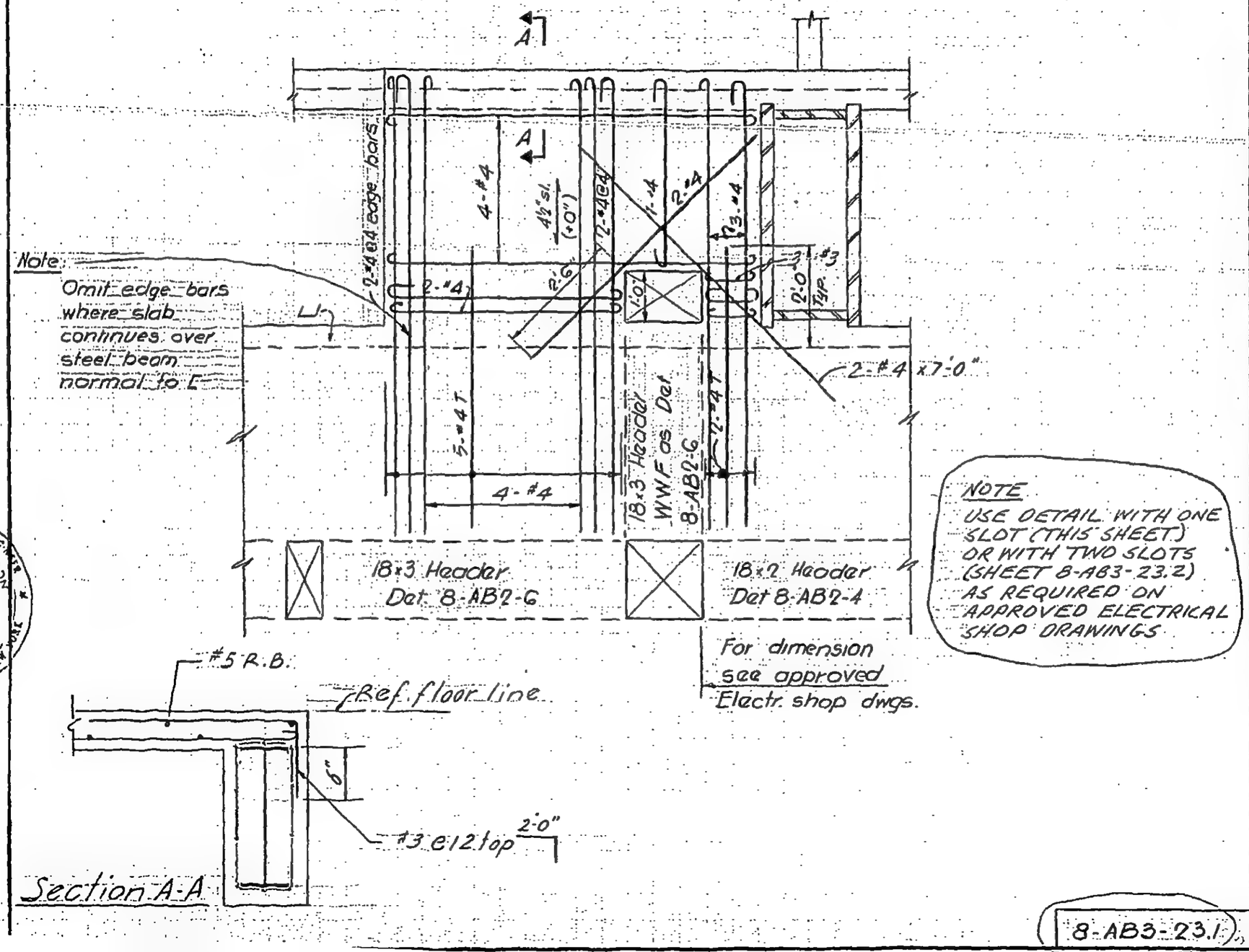
B-AB3-22.2

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON — Structural & Civil Engineers

PROJECT: THE WORLD TRADE CENTER | TITLE: TELEPHONE CLOSET (AT COL. 306 & 1003 AT EL. (40')) | DATE: 3-1-68

REVISIONS

3-24-69



NOTE
USE DETAIL WITH ONE SLOT (THIS SHEET) OR WITH TWO SLOTS (SHEET 8-AB3-23.2) AS REQUIRED ON APPROVED ELECTRICAL SHOP DRAWINGS

LICENSED PROFESSIONAL ENGINEER LESLIE E. ROBERTSON No. 84360 UNIVERSITY OF THE STATE OF NEW YORK

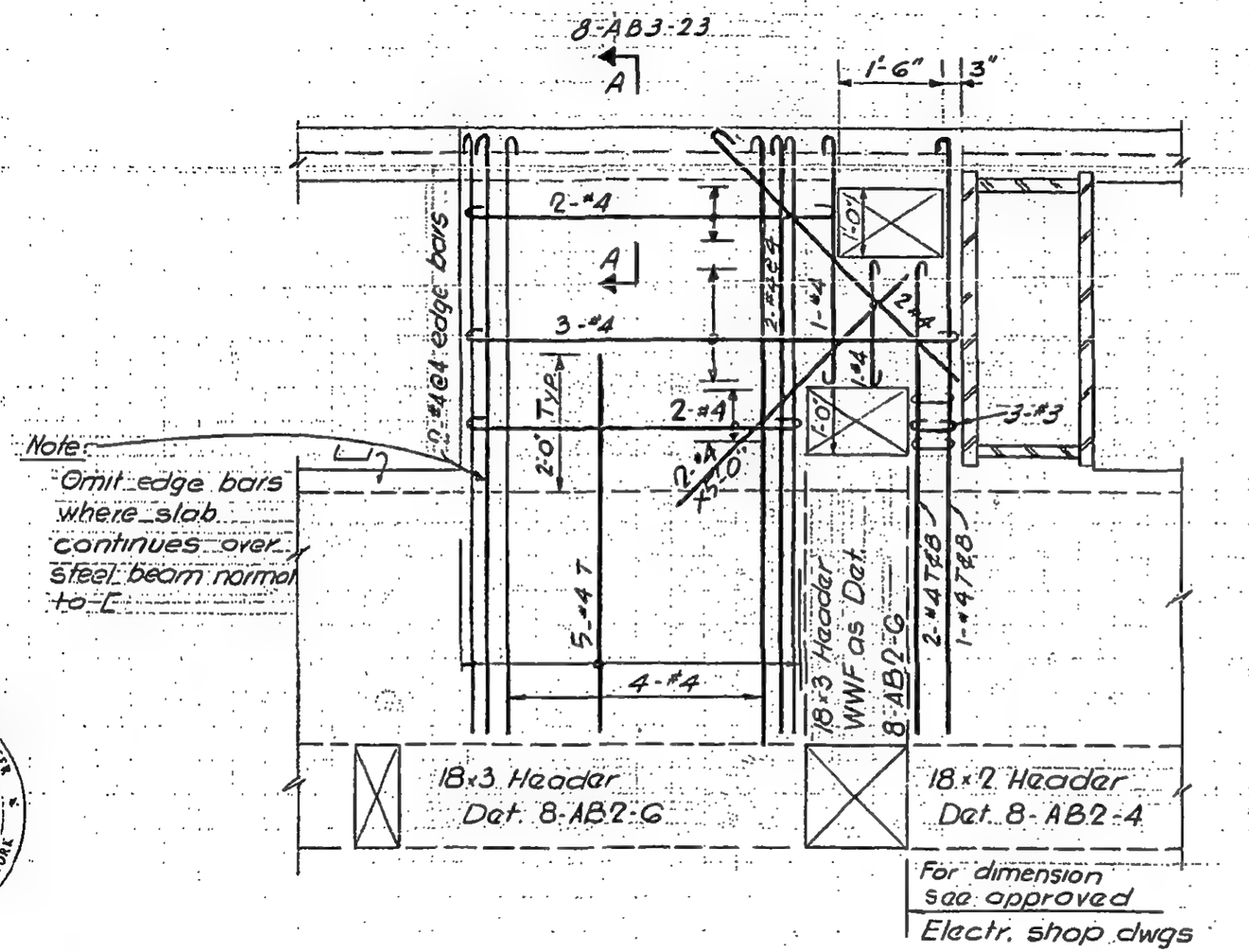
8-AB3-23.1

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE TELEPHONE CLOSET WITH TWO OPNGS, AT EL. (+0") | DATE 3-1-68

REVISIONS

RE-NUMBERED
4-7-69



LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

8-AB3-23.2

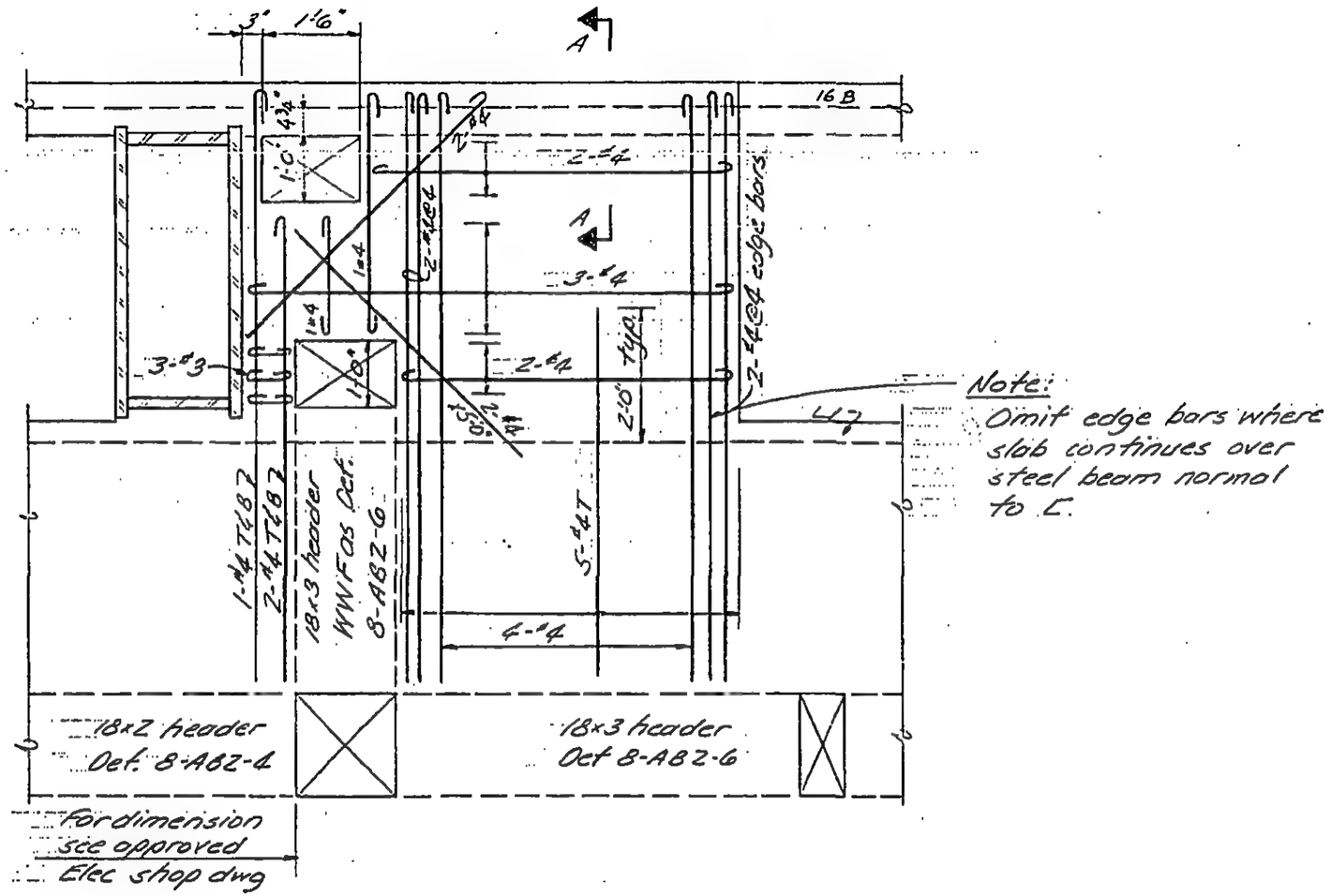
SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

PROJECT: THE WORLD TRADE CENTER | TITLE: TELEPHONE CLOSET (WITH 2 OPNGS) AT EL (40') | DATE: 3-24-69

REVISIONS

TITLE AND NO. REVISED 4-7-69

8-A83-23.1



Note:
Omit edge bars where slab continues over steel beam normal to C.

LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

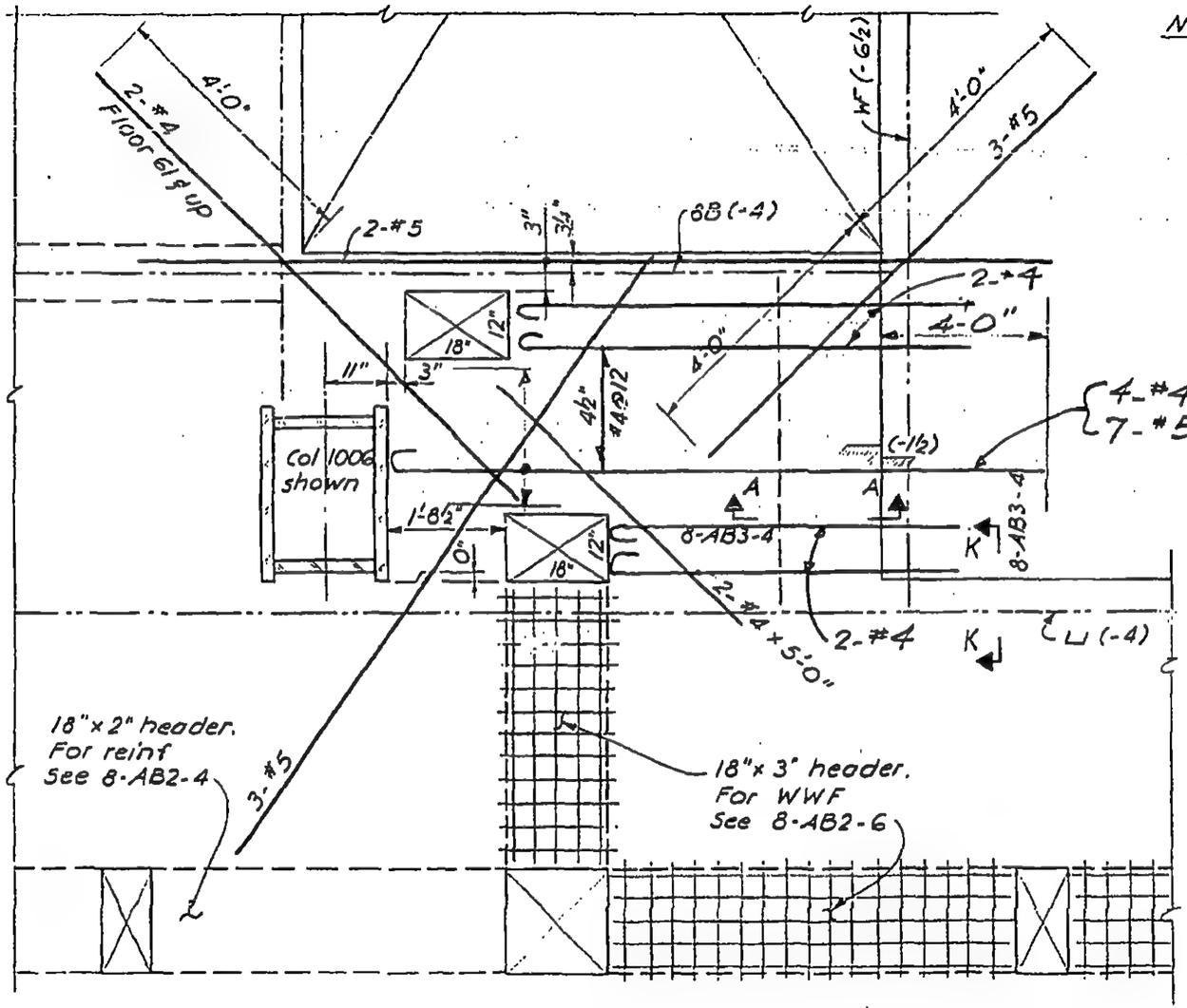
DESIGNED A.L.A.
DRAWN
REVIEWED

8-AB3-24.1

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

PROJECT: THE WORLD TRADE CENTER | TITLE: TELEPHONE CLOSET WITH TWO SLEEVES @EL(+0) | DATE: 10-24-69

REVISIONS



4-#4 Det 24.2
7-#5 Det 24.2A

Notes:
1. Detail drawn for col 1006 at floor 61. Other locations similar, except as shown in Plans and approved Electrical Shop Dwg.
2. Reinf not shown similar to sheet 8-AB3-24.1.

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No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

DESIGNED

DRAWN
F. Smith

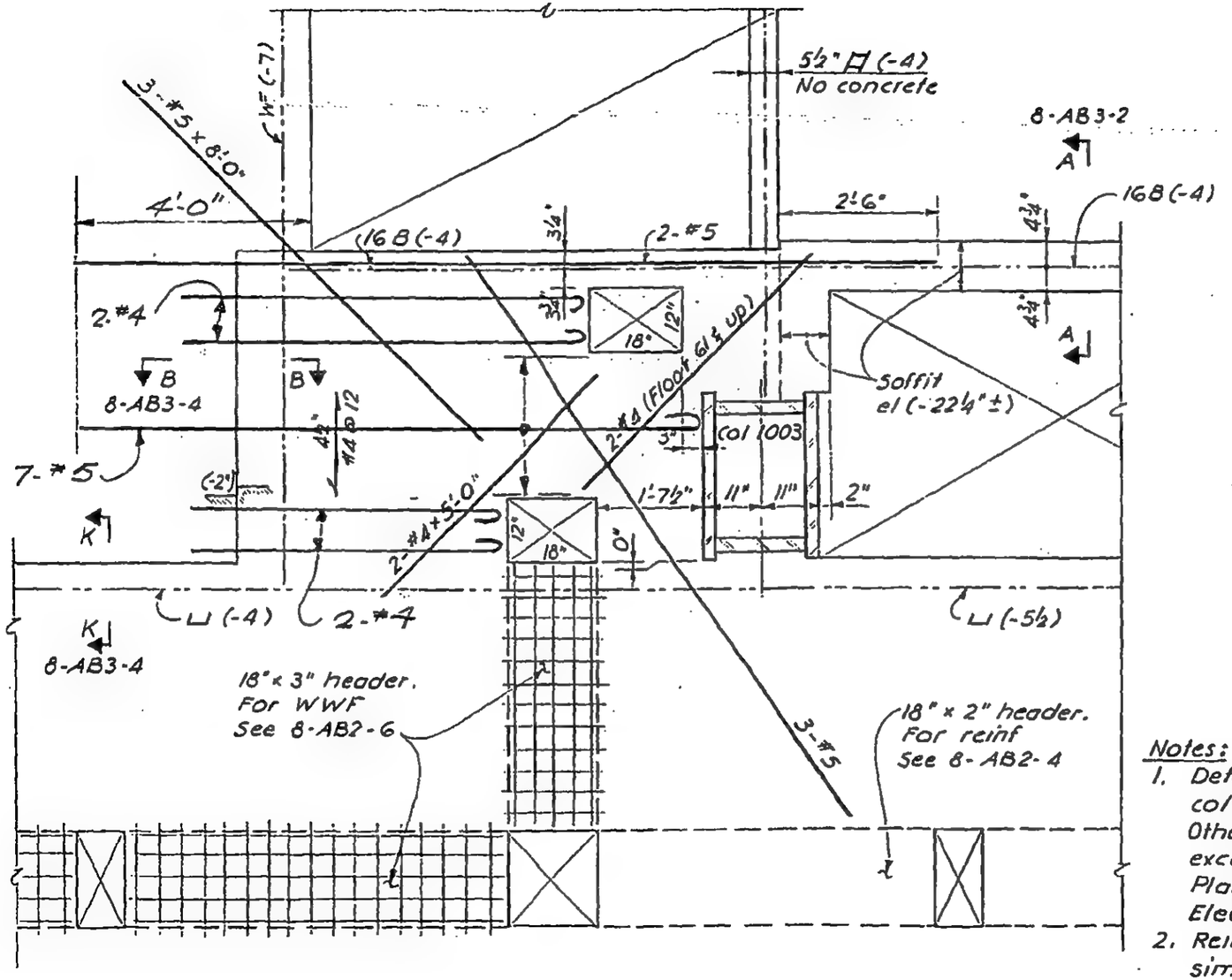
REVIEWED

8-AB3-24.2

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

PROJECT: THE WORLD TRADE CENTER | TITLE: TELEPHONE CLOSET WITH TWO SLEEVES @ EL (+0) | DATE: 10-24-69

REVISIONS



Notes:

1. Detail drawn for col 1003 at floor 61. Other locations sim., except as shown in Plans and approved Electrical Shop Dwg.
2. Reinf not shown similar to sheet 8-AB3-24.1.

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DESIGNED

DRAWN: F. Smith

REVIEWED

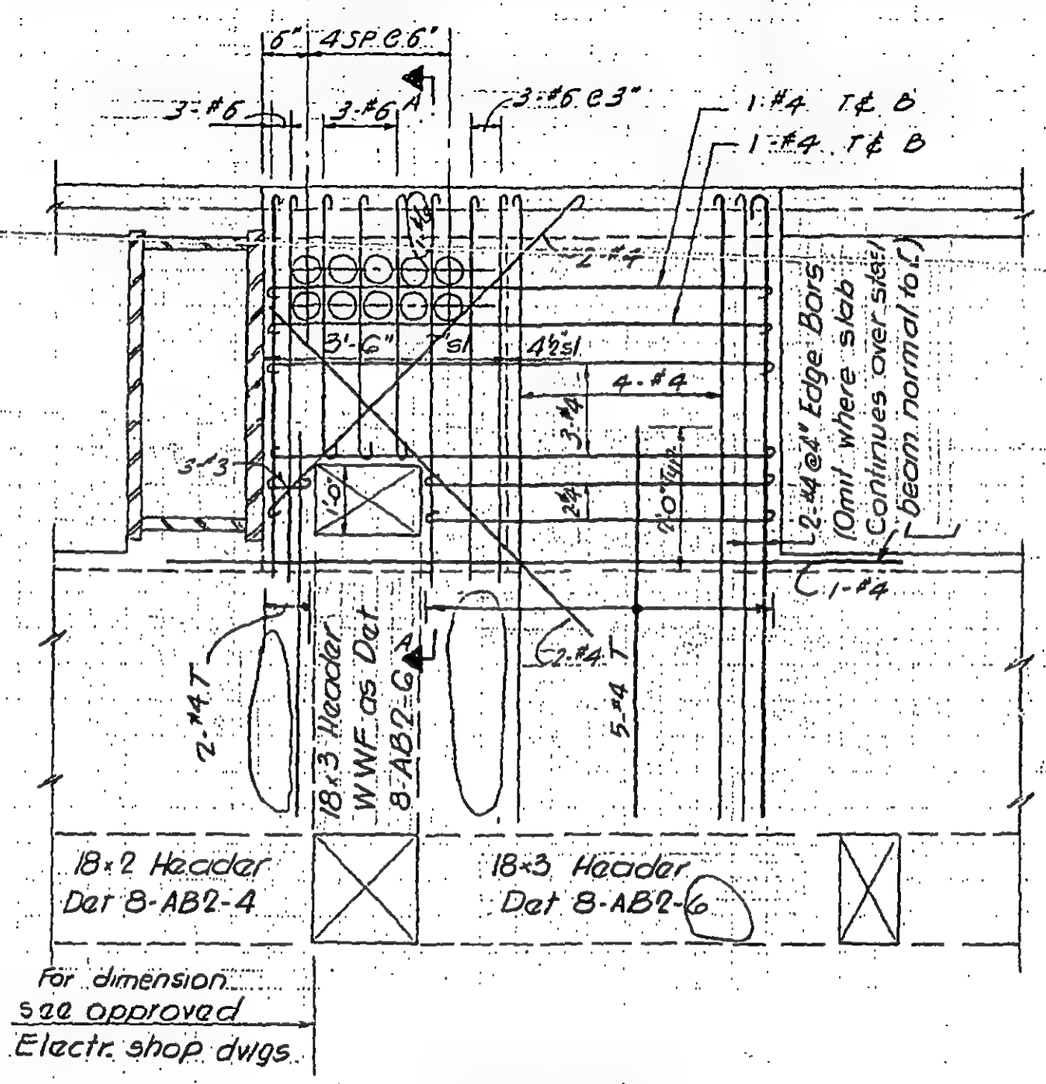
8-AB3-24.3

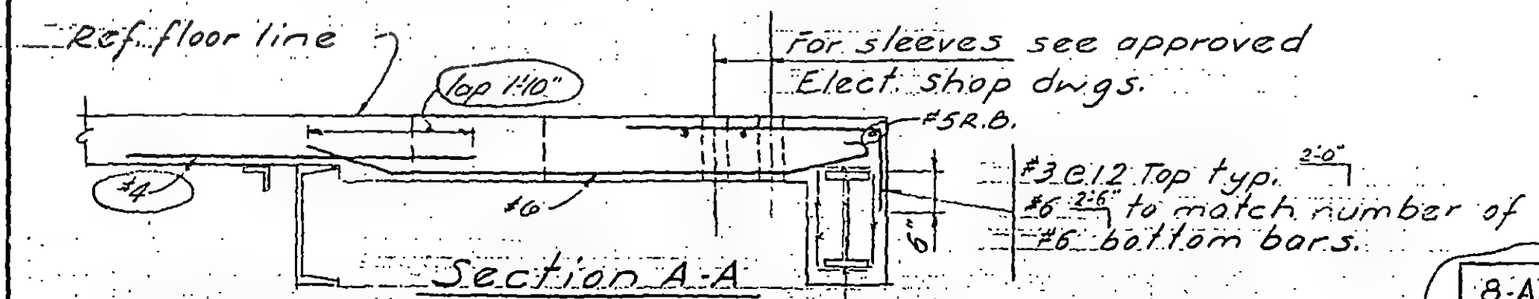
SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE TELEPHONE CLOSET WITH SLEEVES AT EL. (+0") | DATE 3-1-68

REVISIONS

4-7-69





8-AB3-25.1

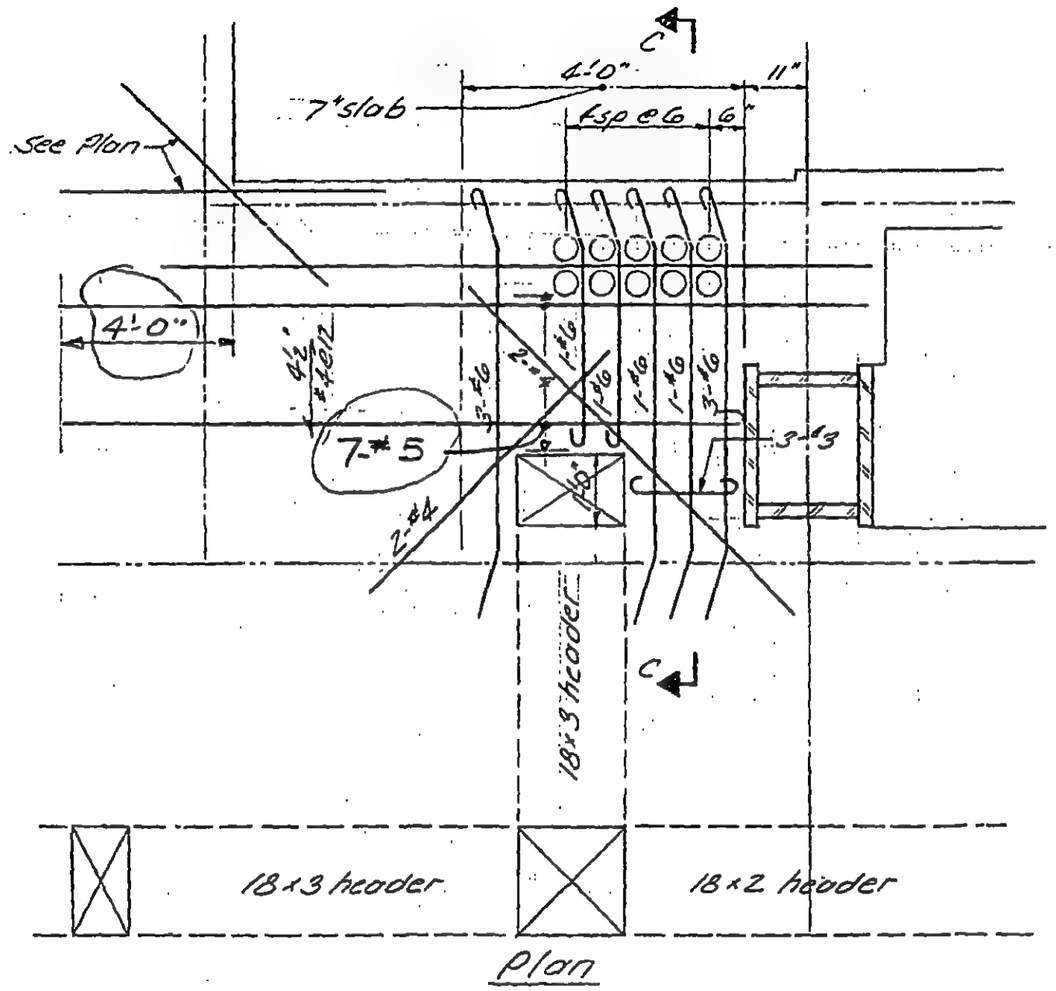
LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

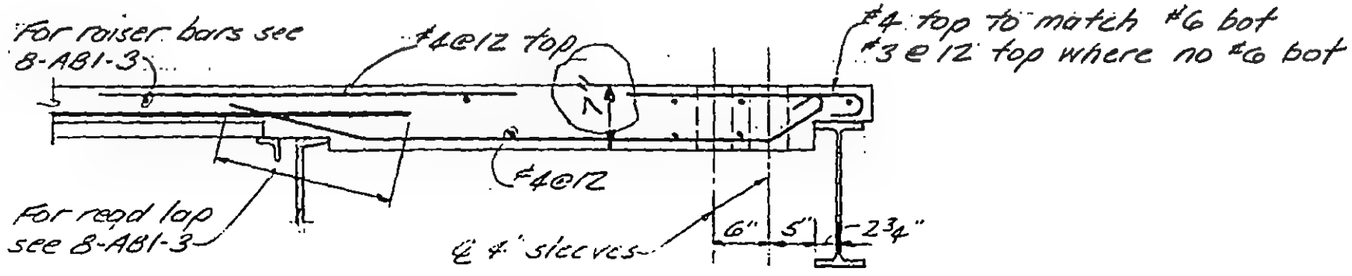
PROJECT THE WORLD TRADE CENTER | TITLE TELEPHONE CLOSET WITH SLEEVES AT EL (0) | DATE 4-7-69

REVISIONS

10/24/69



Plan



Section C-C

NOTES:

1. Floor 67 at Col 1003 shown. Other locations similar; for modifications see Plans. Where an opening exists at edge of telephone closet provide 2-#4 edge bars similar to sheet 8-AB3-25.1.

DESIGNED A.L.A.

DRAWN

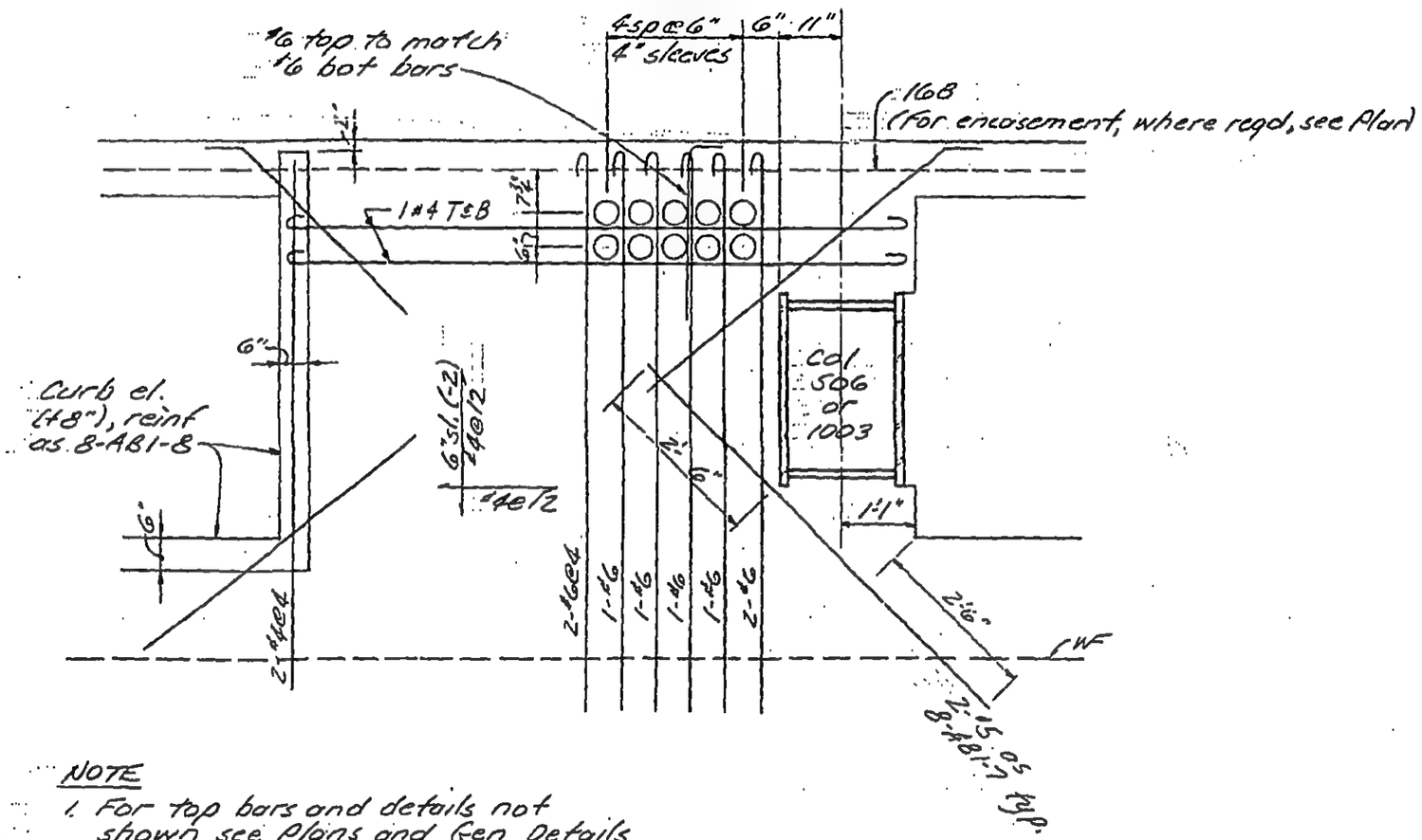
LICENSED PROFESSIONAL ENGINEER — LESLIE E. ROBERTSON — No. 34360 — UNIVERSITY OF THE STATE OF NEW YORK

8-AB3-25.2

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

PROJECT: THE WORLD TRADE CENTER | TITLE: TELEPHONE SLEEVES AT EL (-2') | DATE: 4-7-69

REVISIONS



NOTE

1. For top bars and details not shown see Plans and Gen Details.
2. Floor 75 of Col 506 shown Other locations similar; for modifications see Plans.

LICENSED PROFESSIONAL ENGINEER — LESLIE E. ROBERTSON — No. 34360 — UNIVERSITY OF THE STATE OF NEW YORK

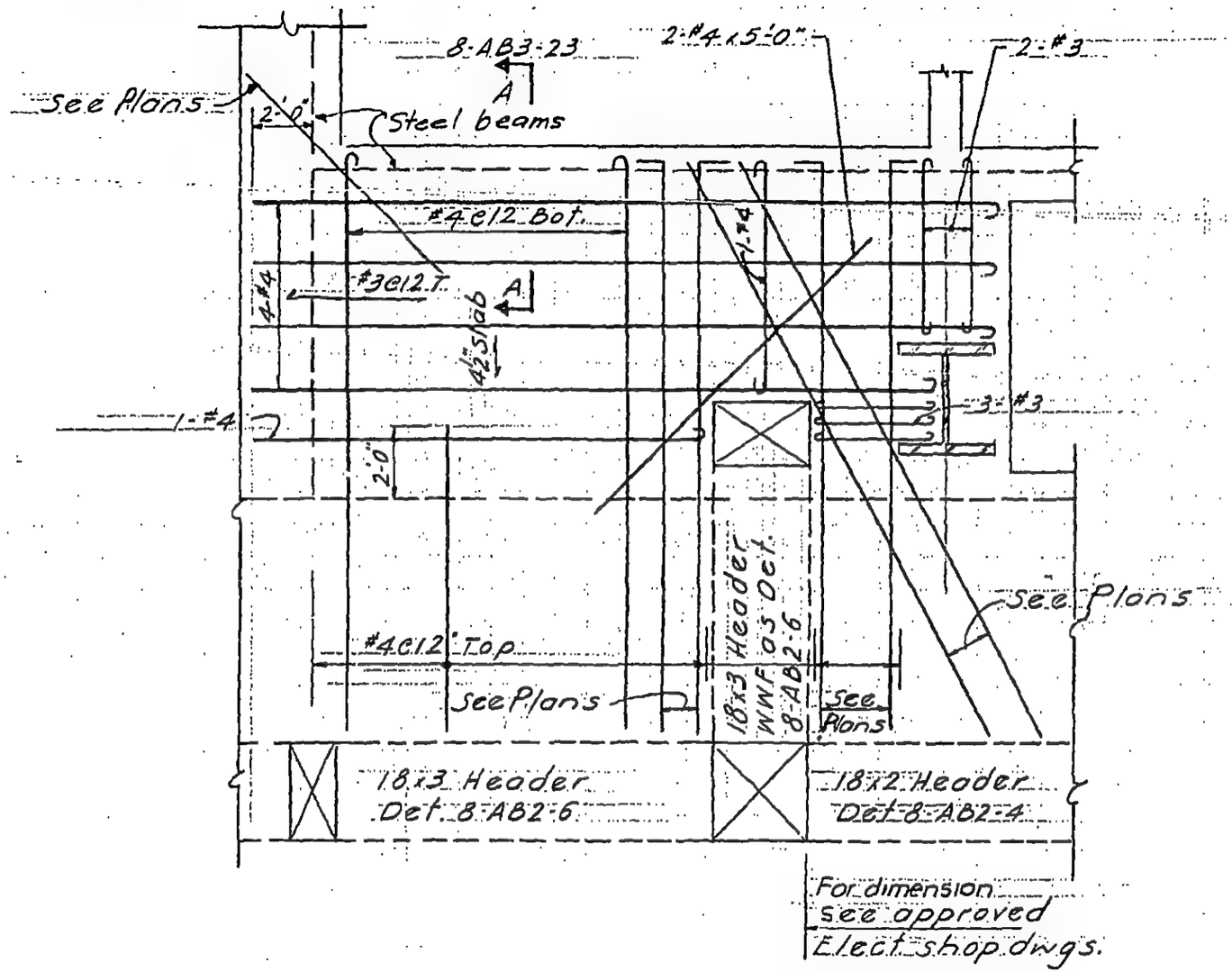
DESIGNED: A.L.A.
DRAWN: J. Adams
REVIEWED:

B-AB3-25.3

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE TELEPHONE CLOSET WITH ONE OPNG, AT EL (+0') | DATE 3-1-68

REVISIONS



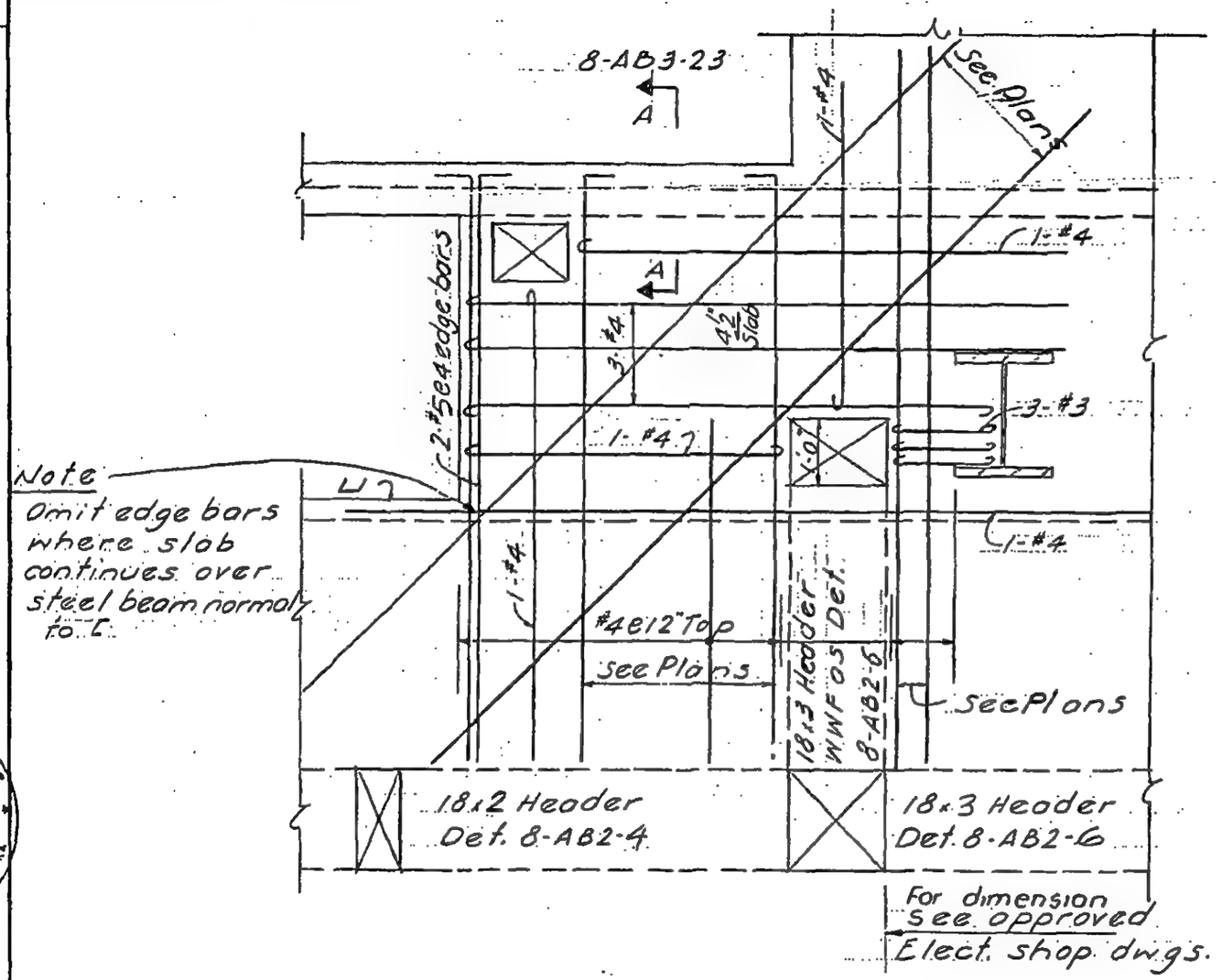
LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
IN THE STATE OF NEW YORK

8-AB3-26

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE TELEPHONE CLOSET WITH TWO OPNGS, AT EL. (+0") | DATE 3-1-68

REVISIONS



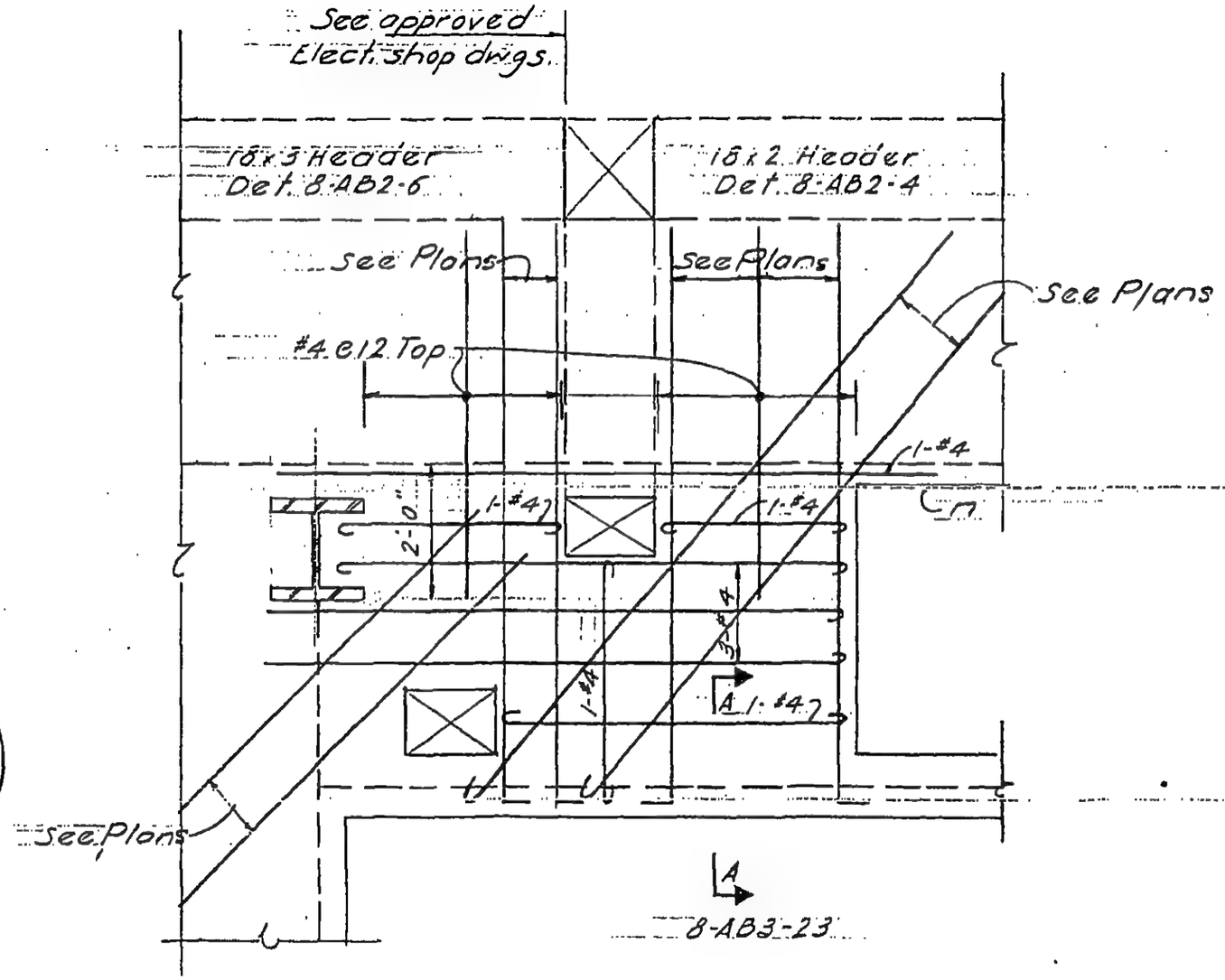
LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

8-AB3-27

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE TELEPHONE CLOSET WITH TWO OPNGS, AT EL. (+0") | DATE 3-1-68

REVISIONS



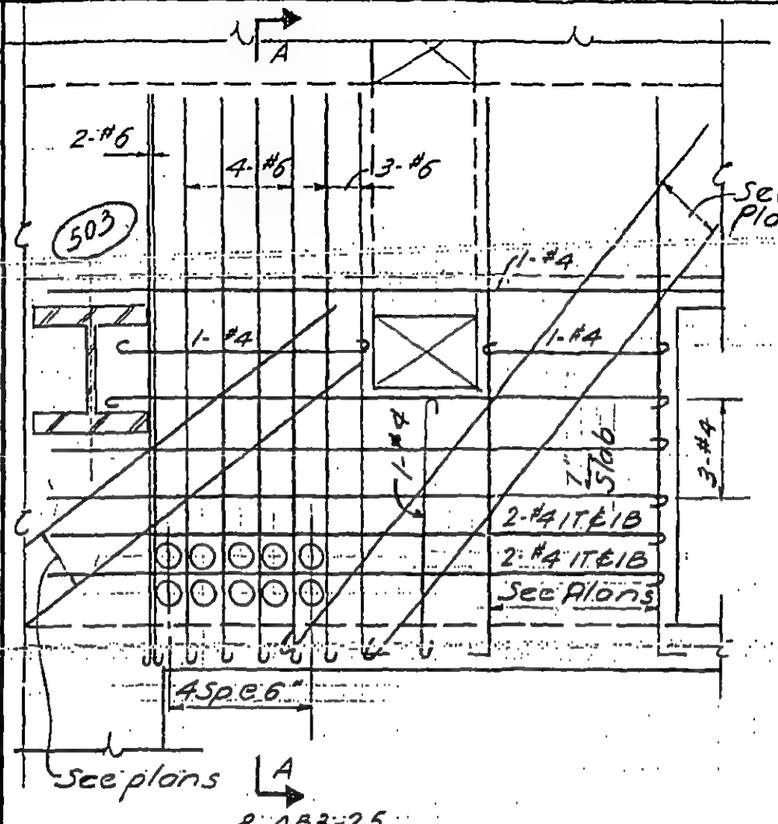
LICENSED PROFESSIONAL ENGINEER LESLIE E. ROBERTSON No. 34360 UNIVERSITY OF THE STATE OF NEW YORK

8-AB3-20

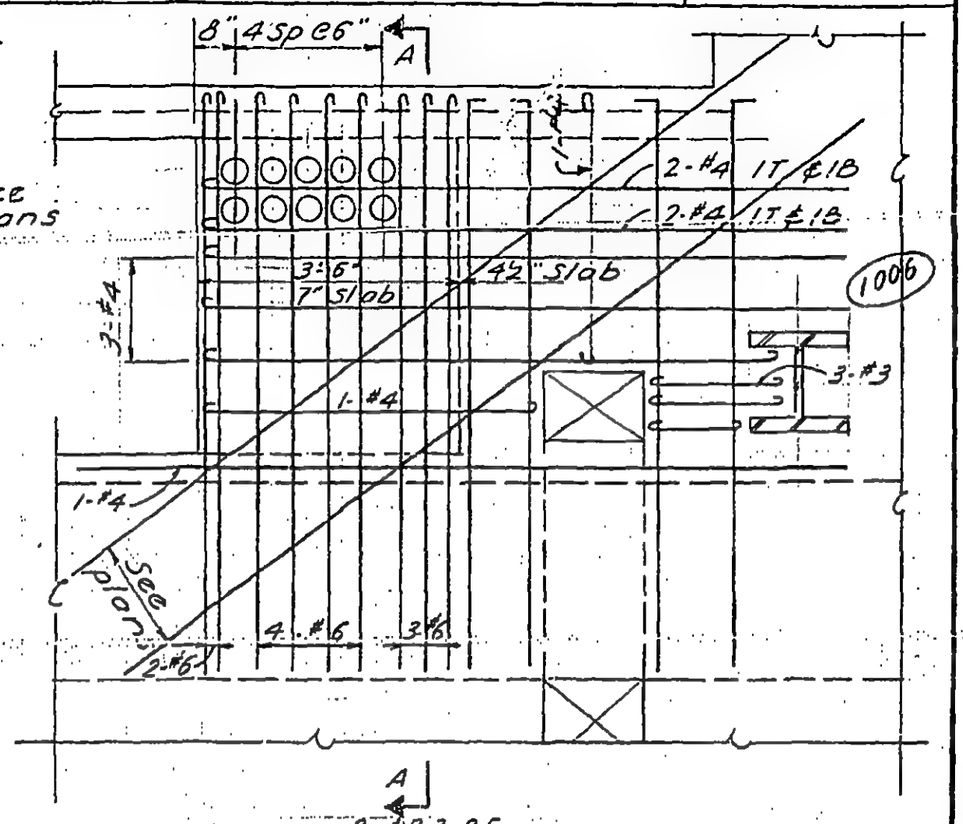
SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE TELEPHONE CLOSET WITH SLEEVES AT EL. (+0") | DATE 3-1-68

REVISIONS



Plan at Col. 503



Plan at Col. 1006

LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

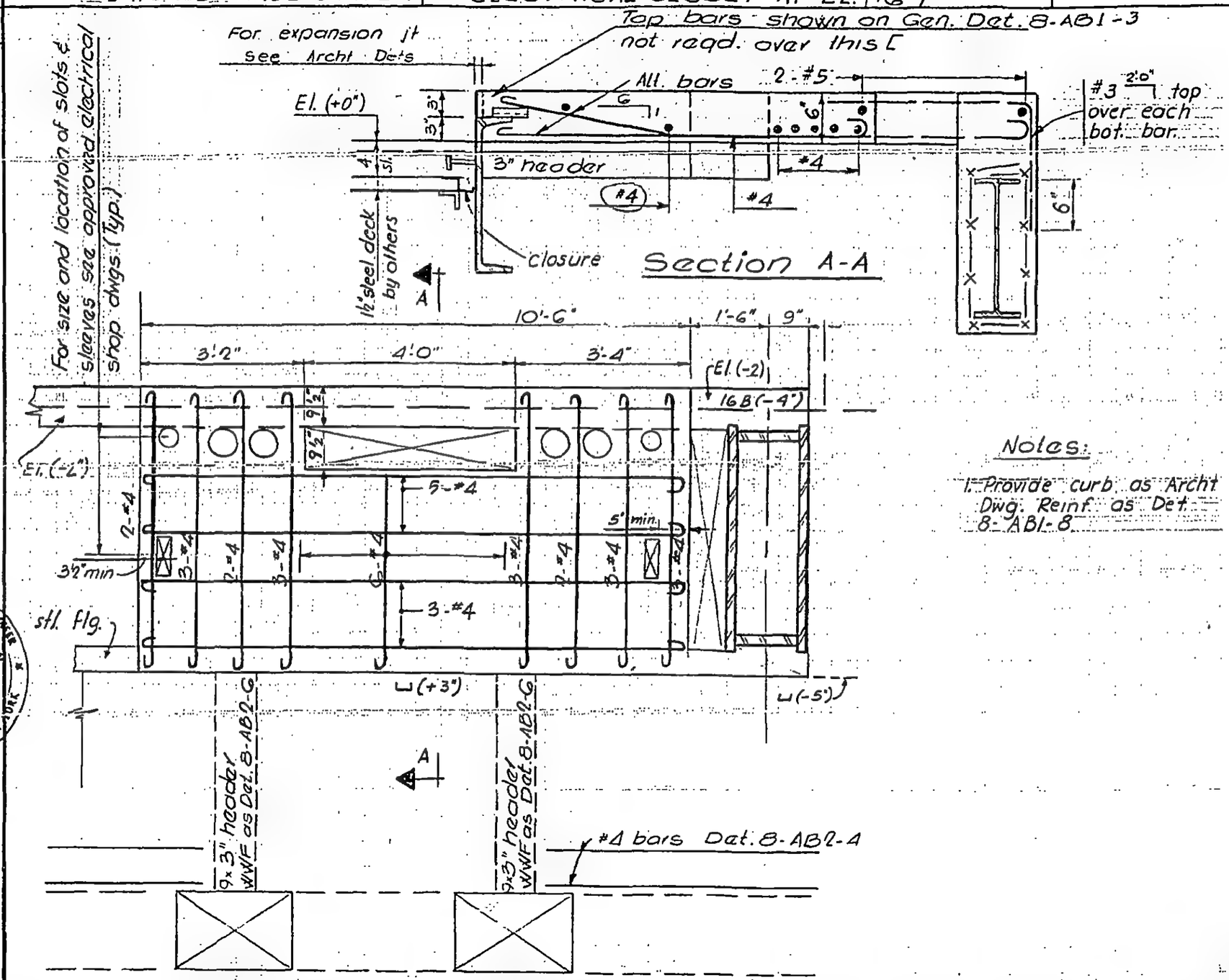
8-AB3-29

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE ELECTRICAL CLOSET AT EL. (+6") | DATE 3-1-68

REVISIONS

1-28-69



Notes:

1. Provide curb as Archt Dwg. Reinf. as Det. 8-AB1-8

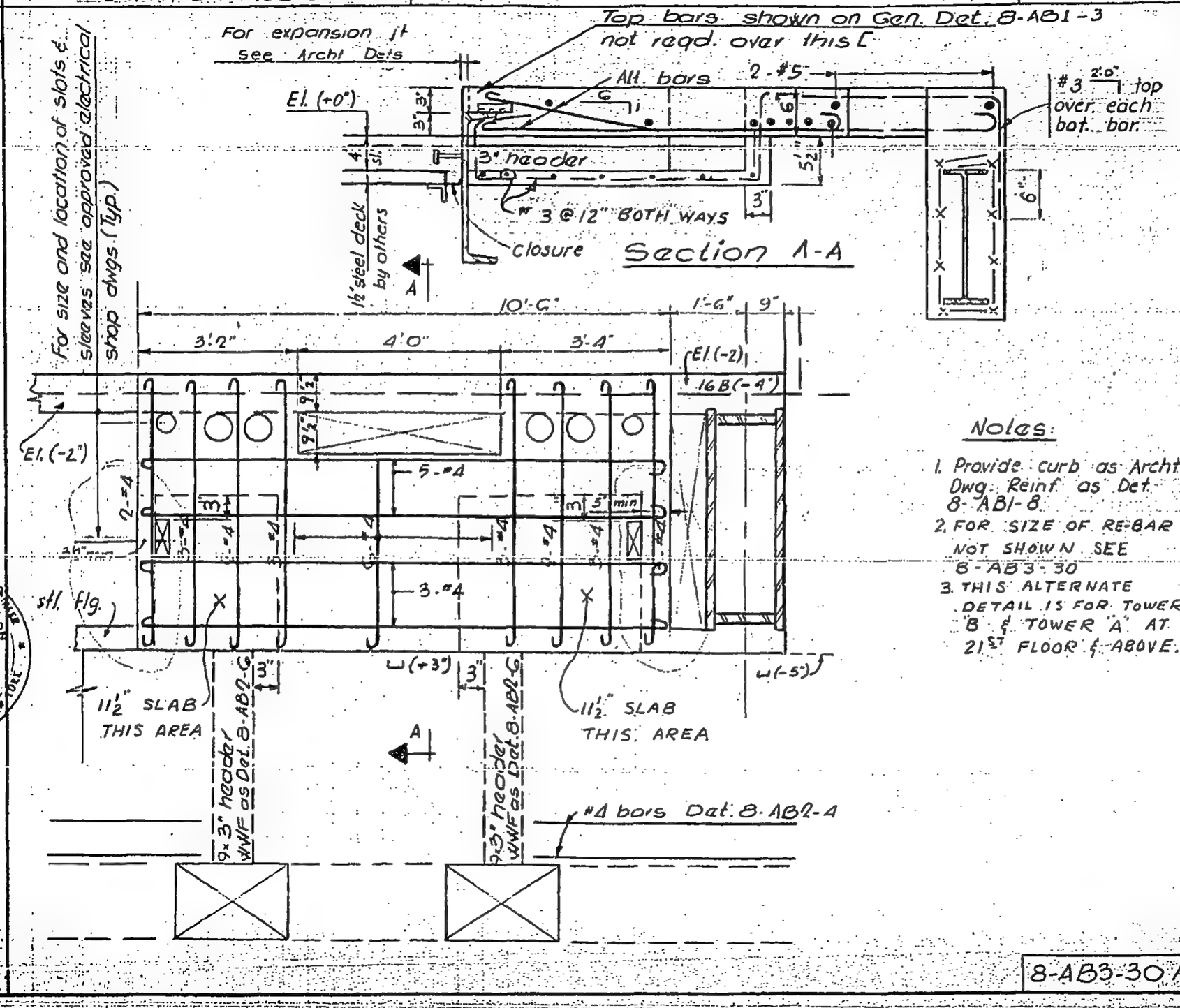
LICENSED PROFESSIONAL ENGINEER LESLIE E. ROBERTSON No. 34360 CITY OF THE STATE OF NEW YORK

8-AB3-30

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE ALTERNATE DETAIL FOR ELECTRICAL CLOSET | DATE 8-10-69

REVISIONS
8/19/69



Notes:

1. Provide curb as Archt Dwg. Reinf as Det. 8-AB1-8.
2. FOR SIZE OF RE-BAR NOT SHOWN SEE 8-AB3-30
3. THIS ALTERNATE DETAIL IS FOR TOWER "B" ℄ TOWER "A" AT 21ST FLOOR ℄ ABOVE.

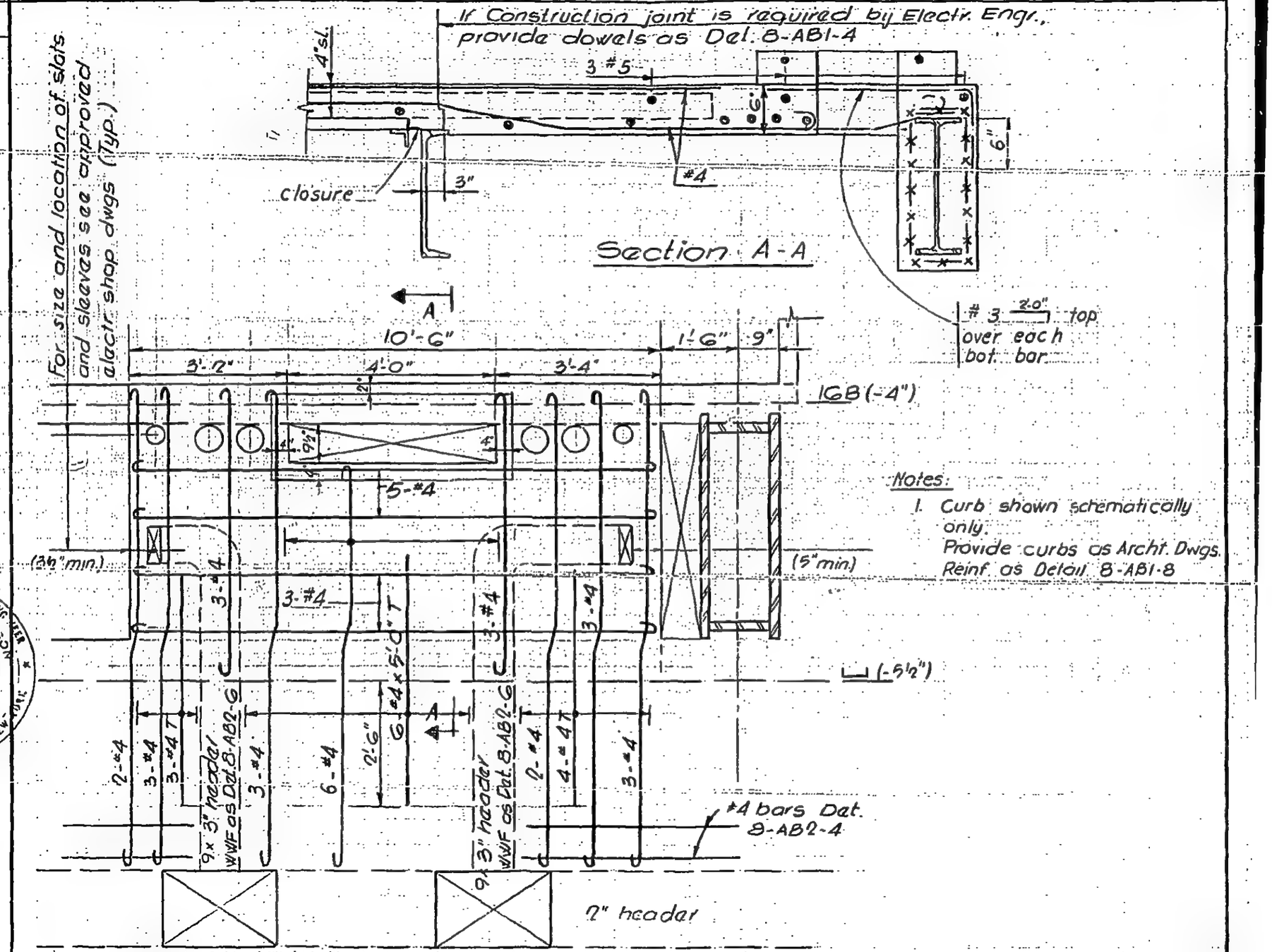
LICENSED PROFESSIONAL ENGINEER LESLIE E. ROBERTSON No. 54360 REGISTERED OF THE STATE OF NEW YORK

8-AB3-30A

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE ELECTRICAL CLOSET AT EL. (+0") | DATE 3-1-68

REVISIONS



LICENSED PROFESSIONAL ENGINEER LESLIE E. ROBERTSON No. 34360 UNIVERSITY OF THE STATE OF NEW YORK

Notes:

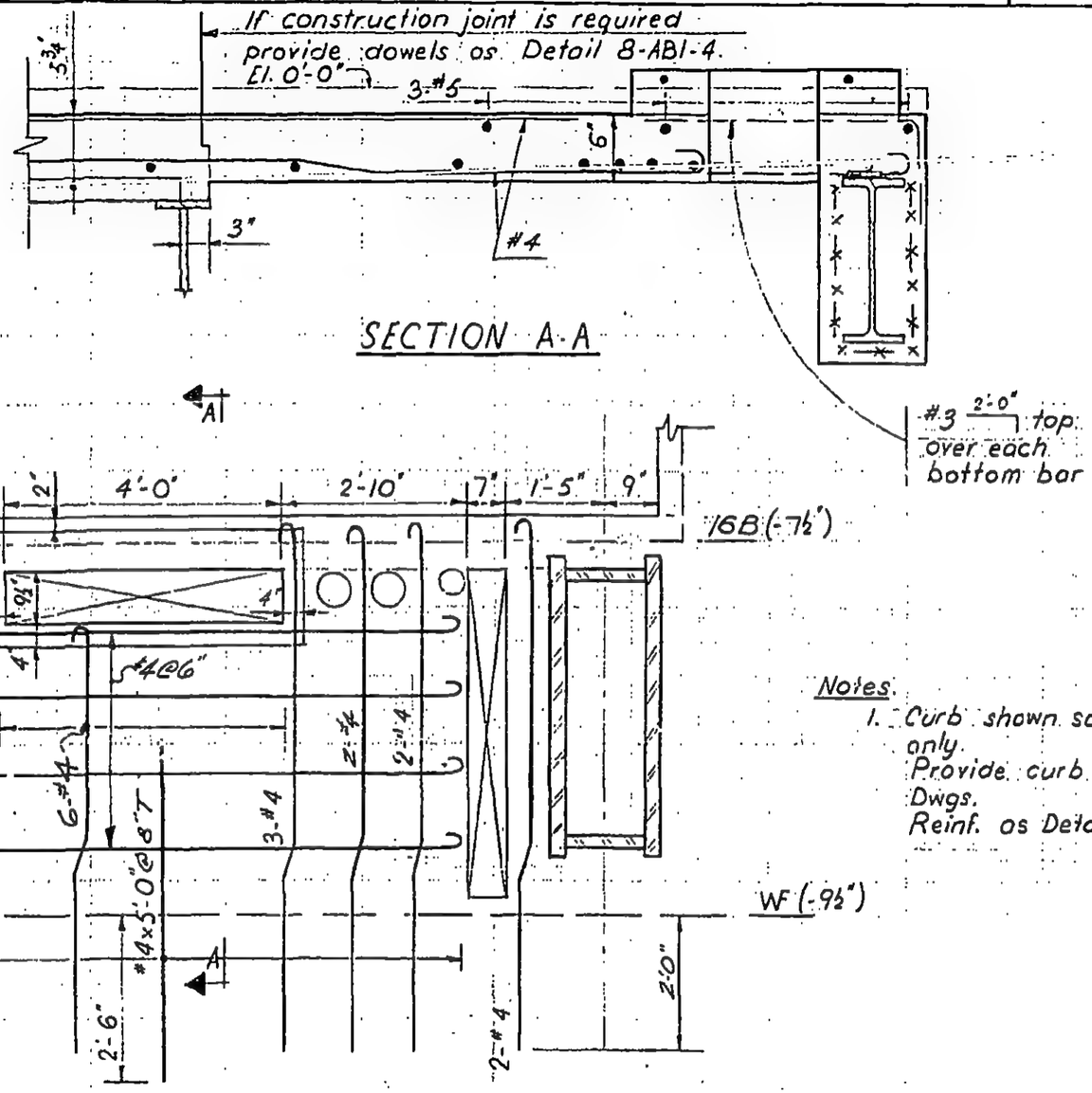
1. Curb shown schematically only. Provide curbs as Archt. Dwgs. Reinf. as Detail 8-AB1-8

8-AB3-31.1

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE ELECTRICAL CLOSET AT FLOOR 41 & 75 | DATE 10/24/69

REVISIONS



Notes.

1. Curb shown schematically only. Provide curb as Archt. Dwgs. Reinf. as Detail 8-AB1-8.

LICENSED PROFESSIONAL ENGINEER — LESLIE E. ROBERTSON — No. 34380 — UNIVERSITY OF THE STATE OF NEW YORK

DESIGNED N. M

DRAWN T. Torrelonge

REVIEWED

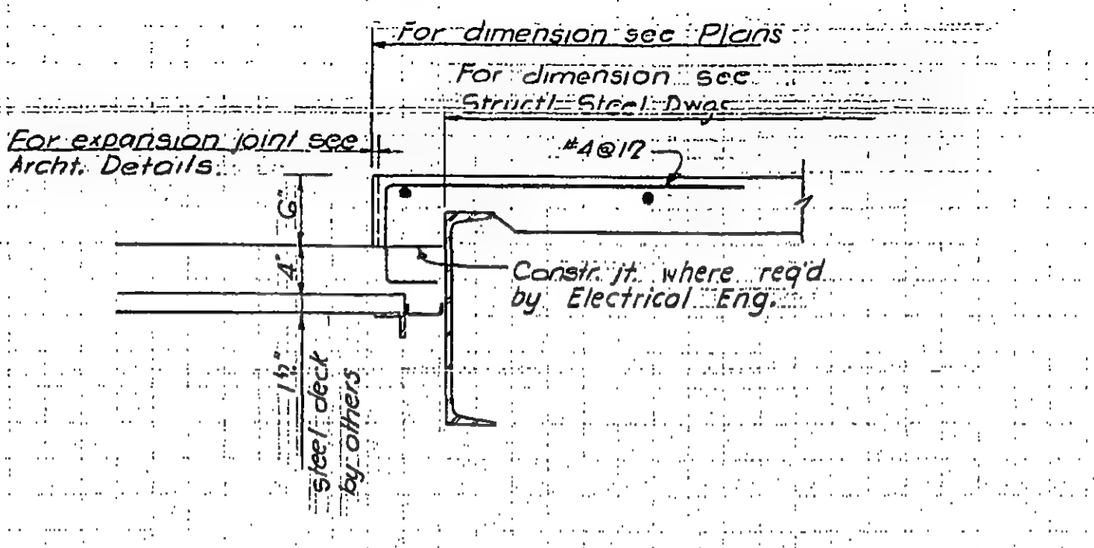
8-AB3-31.2

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT	TITLE	DATE
THE WORLD TRADE CENTER	CLOSET AT EL. (+G) EXTENDING BEYOND E	3-1-68

REVISIONS

10-24-69



Detail 8-AB3-32A (Telephone Closet)
Remainder as Det. 8-AB3-20 thru 22, as applicable

Detail 8-AB3-32B (Telephone Closet)
Remainder as Det. 8-AB3-20 thru 22, as applicable

Detail 8-AB3-32C (Electrical Closet)
Remainder as Det. 8-AB3-30

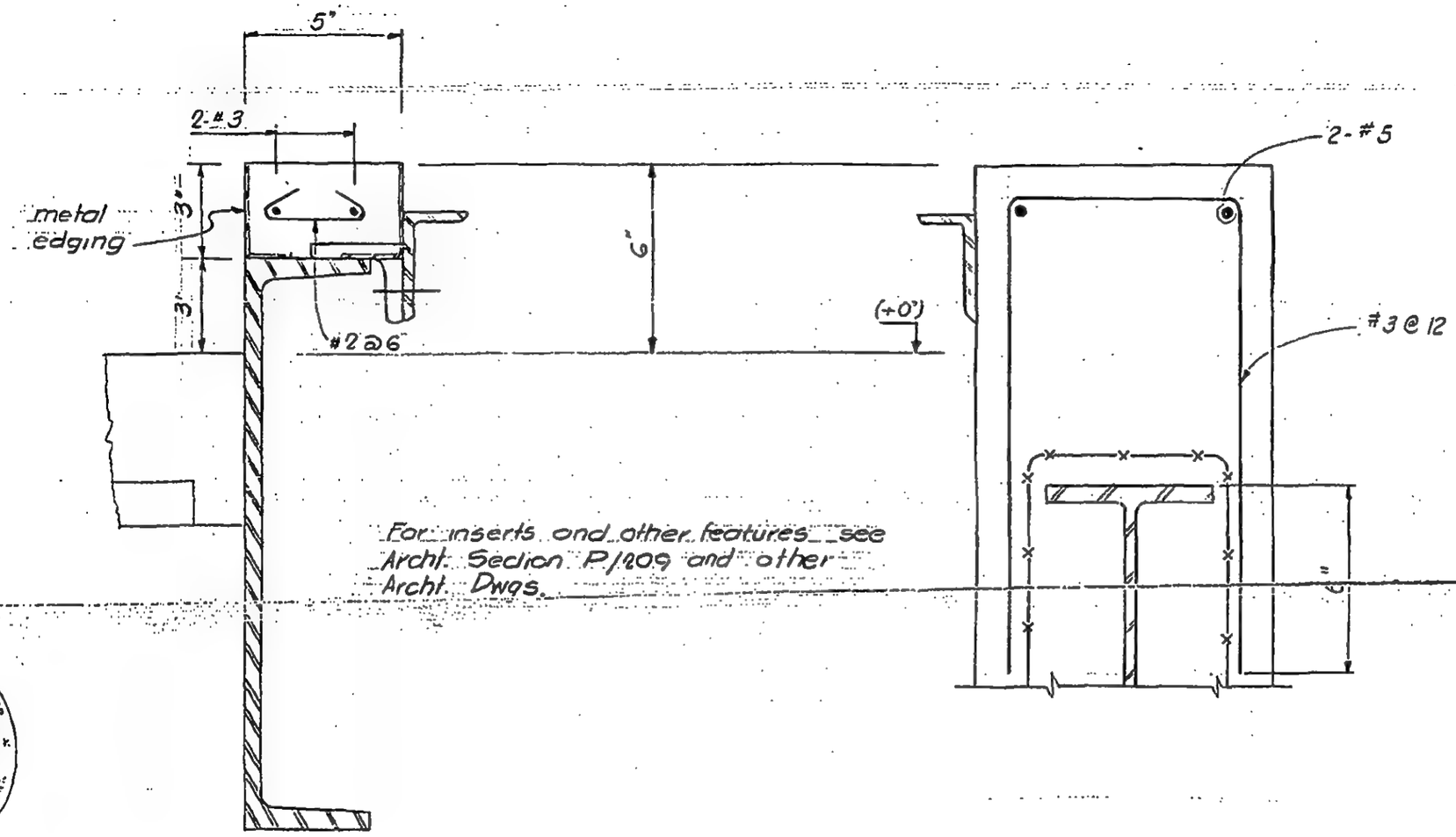
LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

8-AB3-32

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE SUPPORTS FOR GRATING | DATE 3-1-68

REVISIONS



For inserts and other features see Archt. Section P/209 and other Archt. Dwgs.

Section A-A

LICENSED PROFESSIONAL ENGINEER LESLIE E. ROBERTSON No. 34360 UNIVERSITY OF THE STATE OF NEW YORK

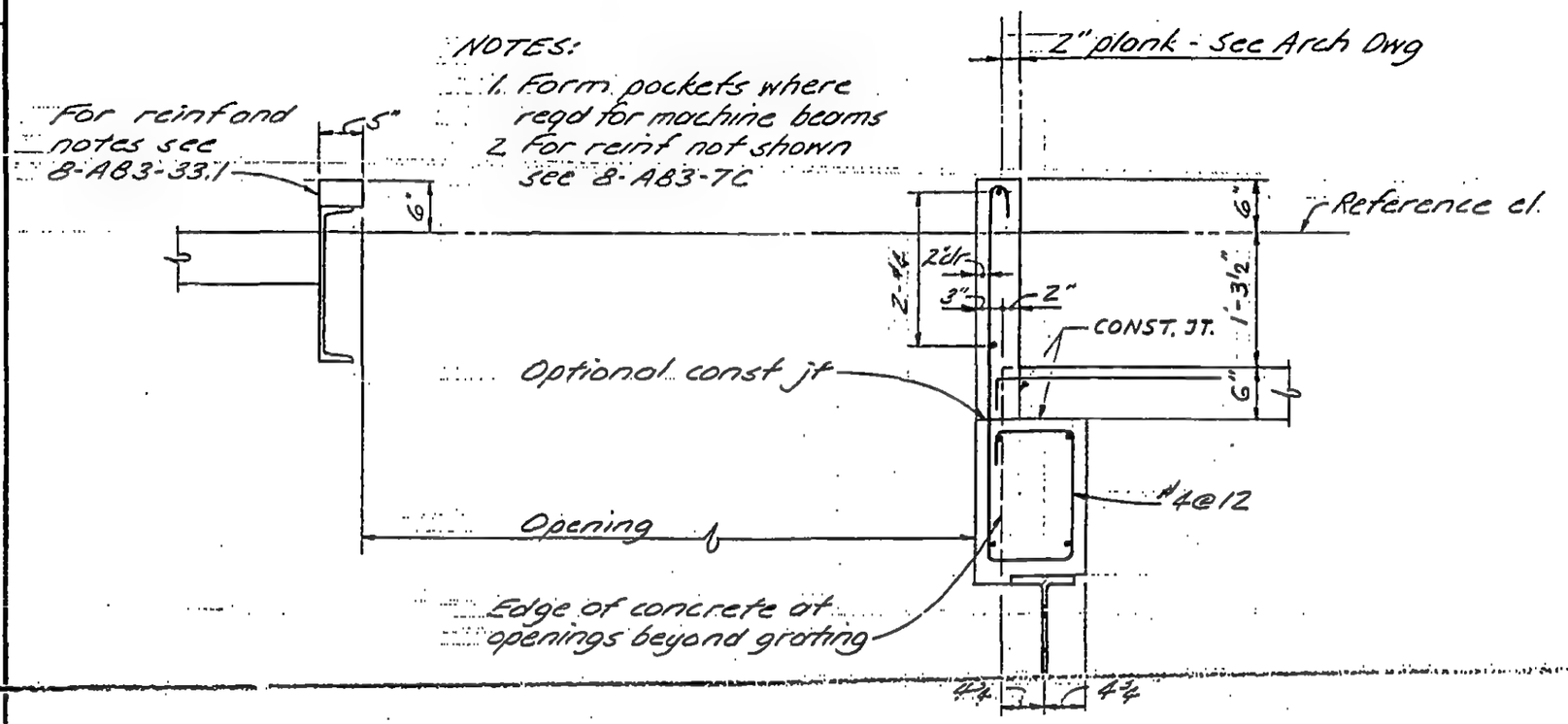
8-AB3-33.1

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

PROJECT: THE WORLD TRADE CENTER | TITLE: SUPPORTS FOR GRATING | DATE: 4-23-69

REVISIONS

NOTES:
1. Form pockets where reqd for machine beams
2. For reinf not shown see 8-AB3-7C



Section B-B

LICENSED PROFESSIONAL ENGINEER — LESLIE E. ROBERTSON — No. 34360 — UNIVERSITY OF THE STATE OF NEW YORK

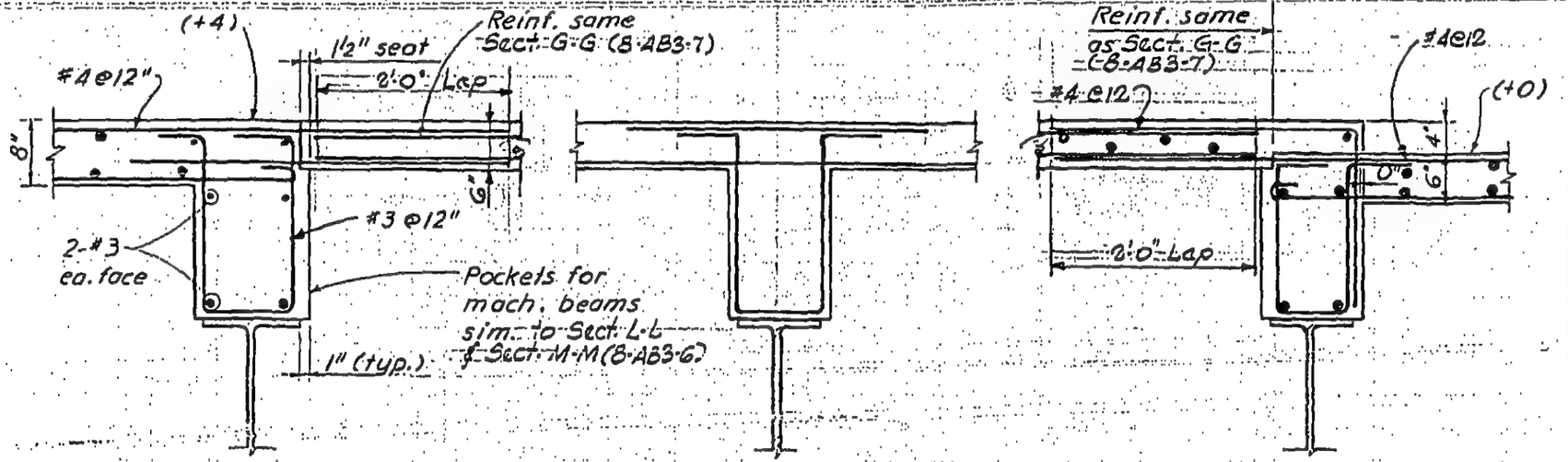
DESIGNED: A.L.A.
DRAWN: J. Adams
REVIEWED:

8-AB3-33.2

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE SECTIONS AT FLOOR 110 | DATE 3-1-68 F.S.

REVISIONS



Section A-A

Section B-B

Details not shown - sim to A-A

Section C-C

Details not shown - sim to A-A

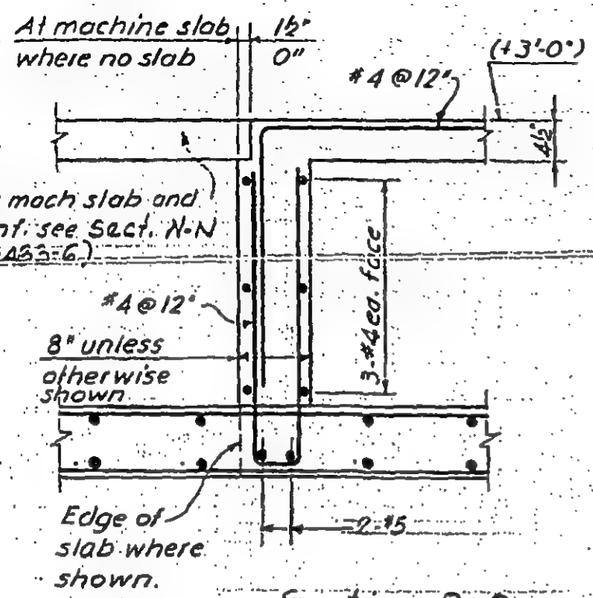
LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

8-AB3-34.1

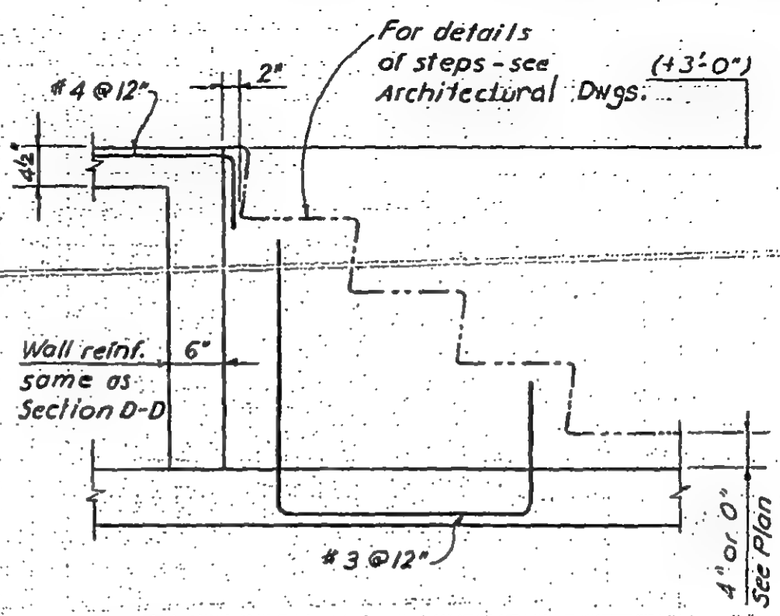
SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE SECTIONS AT FLOOR 110 | DATE 3-1-68 KS.

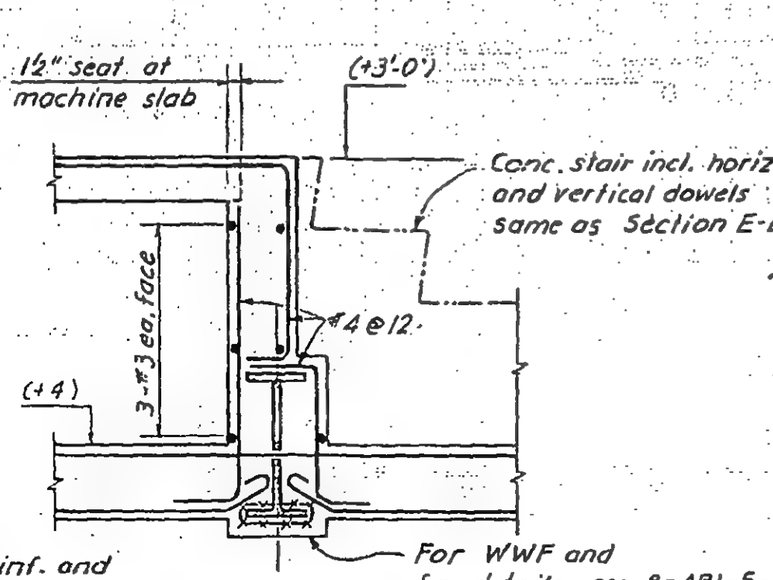
REVISIONS



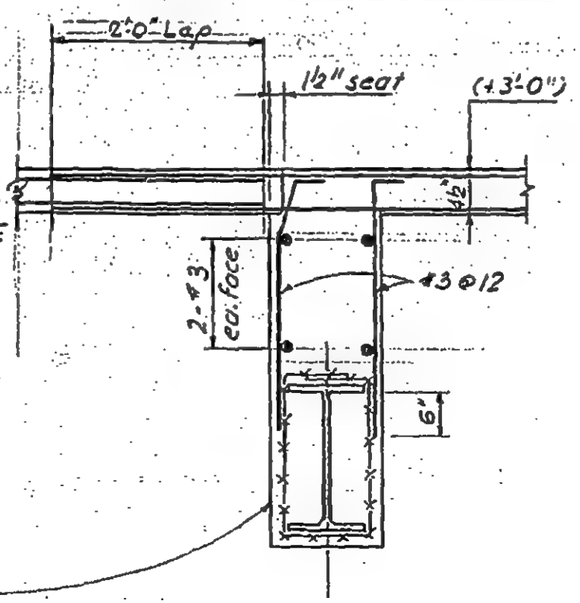
Section D-D



Section E-E



Section F-F



Section G-G

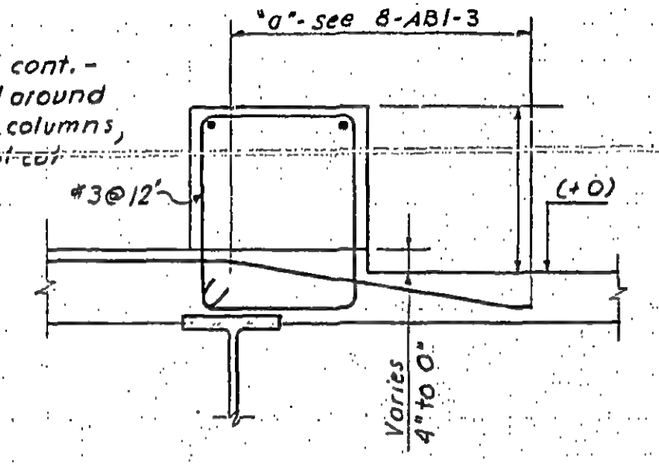
LICENSED PROFESSIONAL ENGINEER LESLIE E. ROBERTSON No. 34360 UNIVERSITY OF THE STATE OF N.Y.

8-AB3-34.2

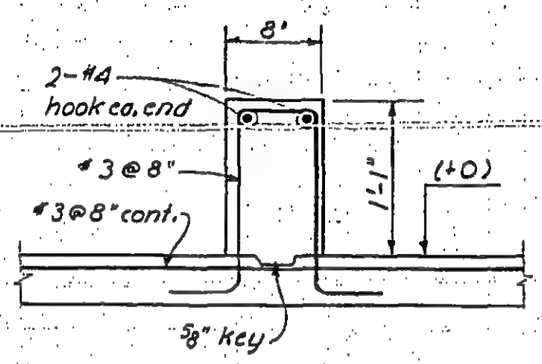
SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE SECTIONS AT FLOOR 110 | DATE 3-1-68

REVISIONS



Section H-H



Section J-J

Note:
For length of curbs and for details - see approved shop dwgs of Window Washer Tracks.

Note:
For anchors and other items see Architectural Drawings.

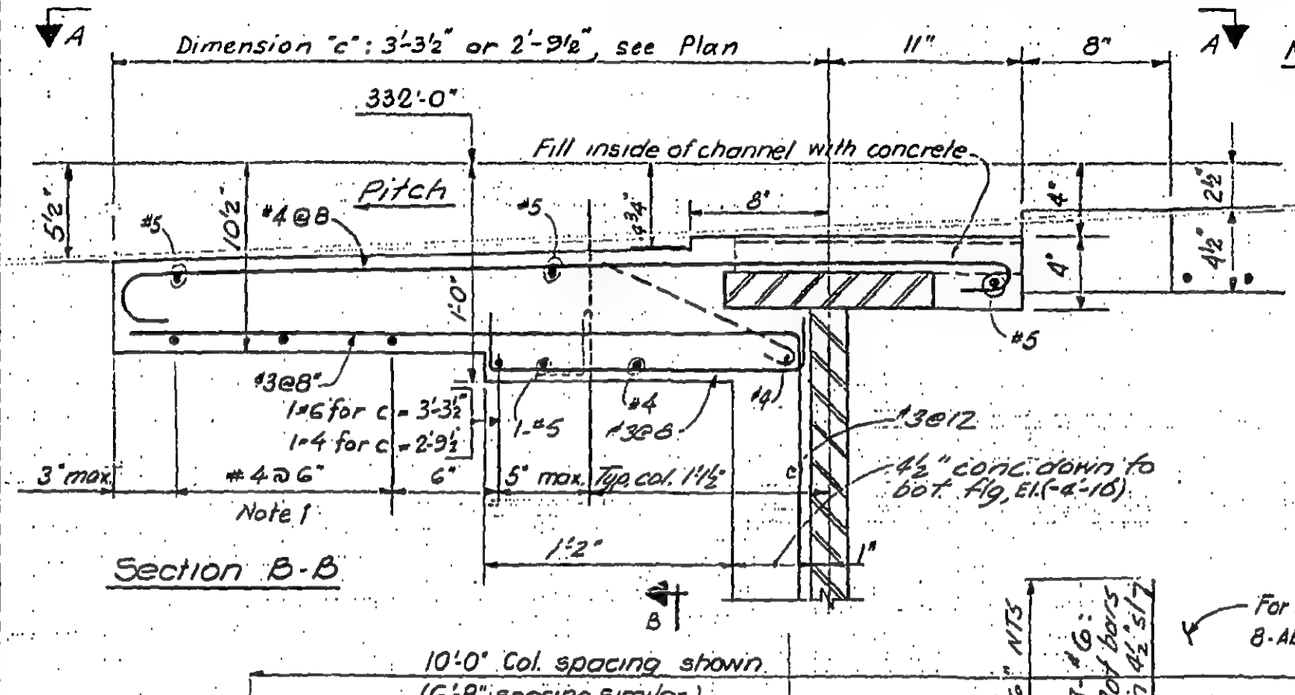
LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

8-AB3-34.3

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

PROJECT: THE WORLD TRADE CENTER | TITLE: SECTIONS AT FLOOR 2 | DATE: 3-1-68

REVISIONS
5-31-68 General Rev.
3-19-69



Detail Plan A-A

Notes:

1. Compute number of bars from dimensions; number is not necessarily as shown.
2. Hooks may be 90° std. hooks, and/or parallel to spandrel beam (not as shown.)

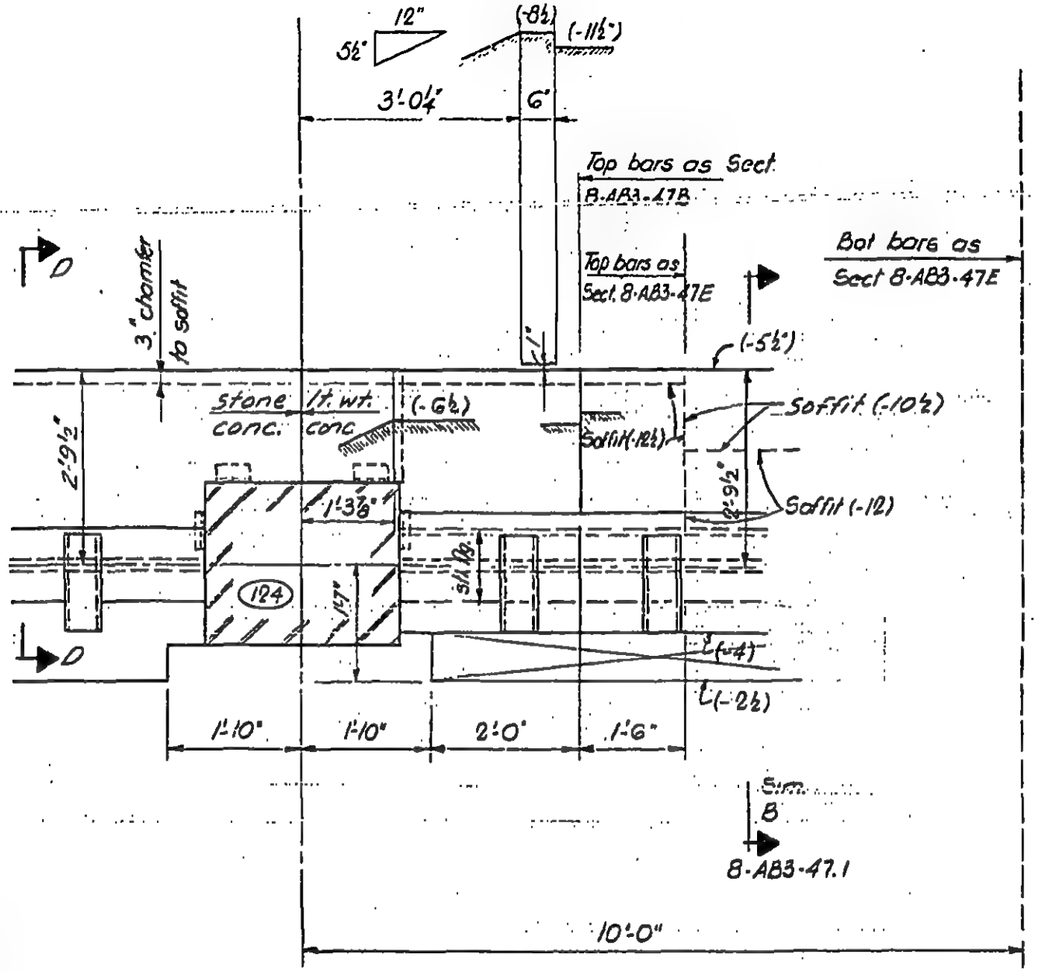
LICENSED PROFESSIONAL ENGINEER — LESLIE E. ROBERTSON — No. 34360 — UNIVERSITY OF THE STATE OF NEW YORK

DESIGNED: A.L.A.
DRAWN: G.T. Hellebranth
REVIEWED:

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

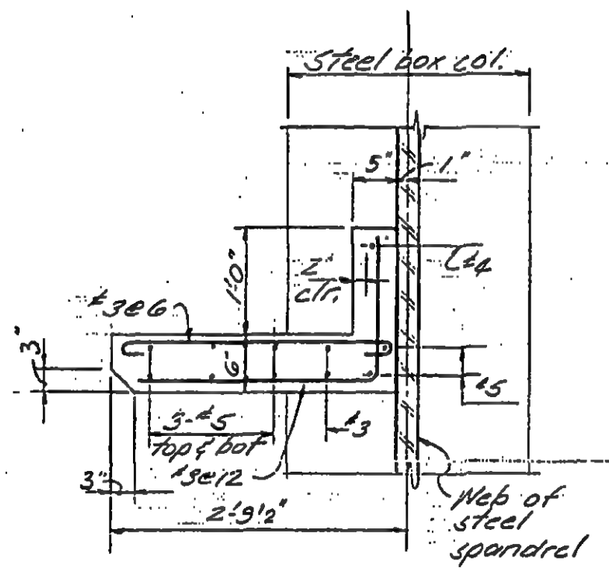
PROJECT: THE WORLD TRADE CENTER | TITLE: SECTIONS AT FLOOR 2 | DATE: 3-19-69

REVISIONS



Detail Plan C

Column 124 shown
Column 336 opp. hand



Section D-D

Note: Any bars cut short due to flange of steel spandrel shall be hooked

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DESIGNED: A.L.A.
DRAWN: G.T. Hellebranth
REVIEWED:

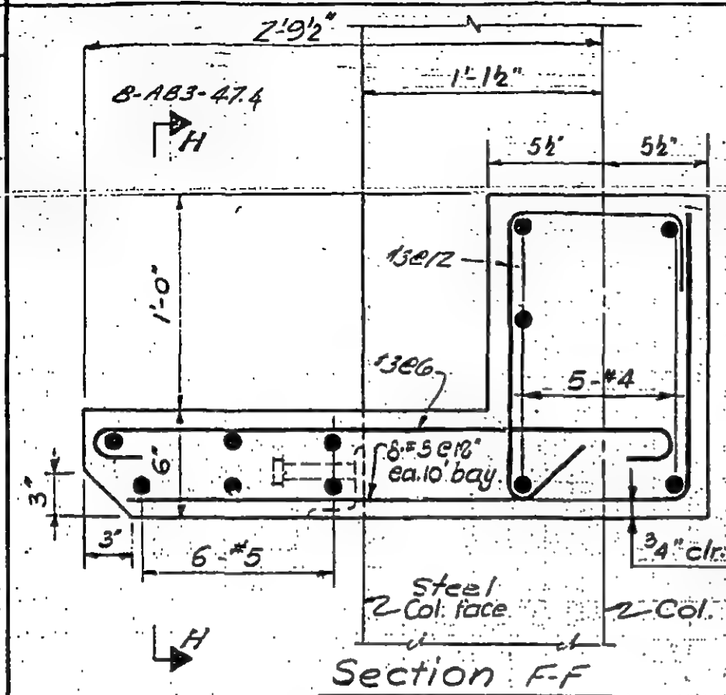
8-AB3-47.2

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON. Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE SECTIONS AT FLOOR 2 | DATE 3-1-68

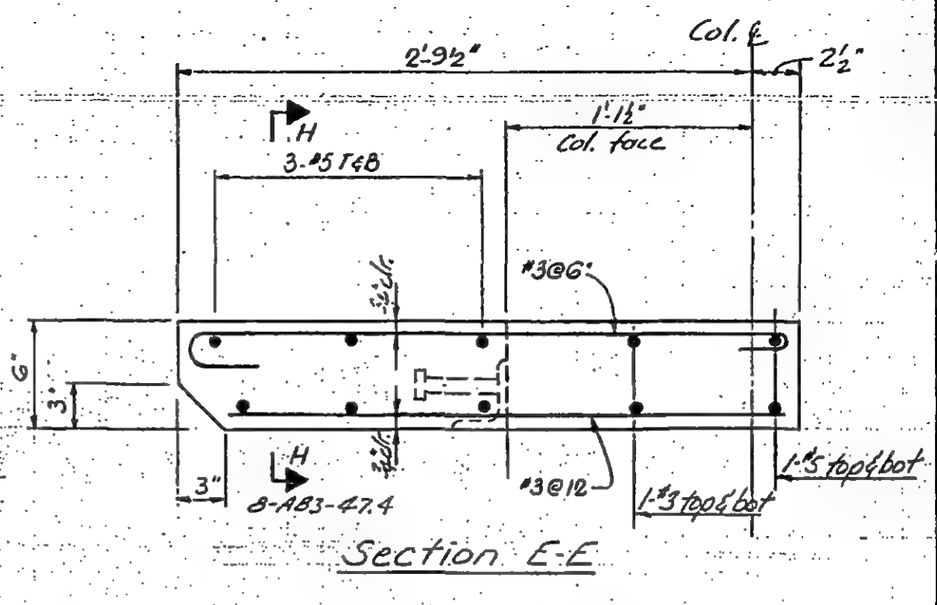
REVISIONS

5/31/68
General Rev.
3-19-69

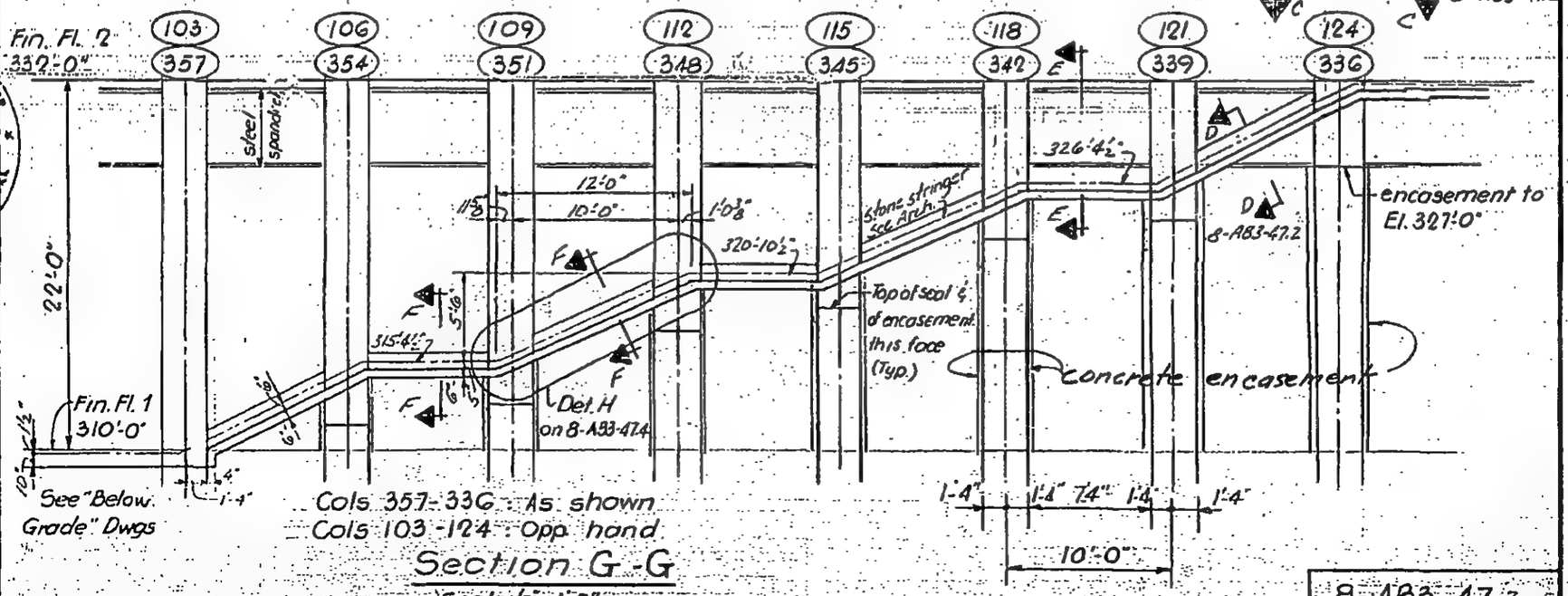


Section F-F

Scale: 1½"=1'-0"



Section E-E



Cols 357-336 - As shown
Cols 103-124 - Opp hand

Section G-G

Scale 1/8"=1'-0"

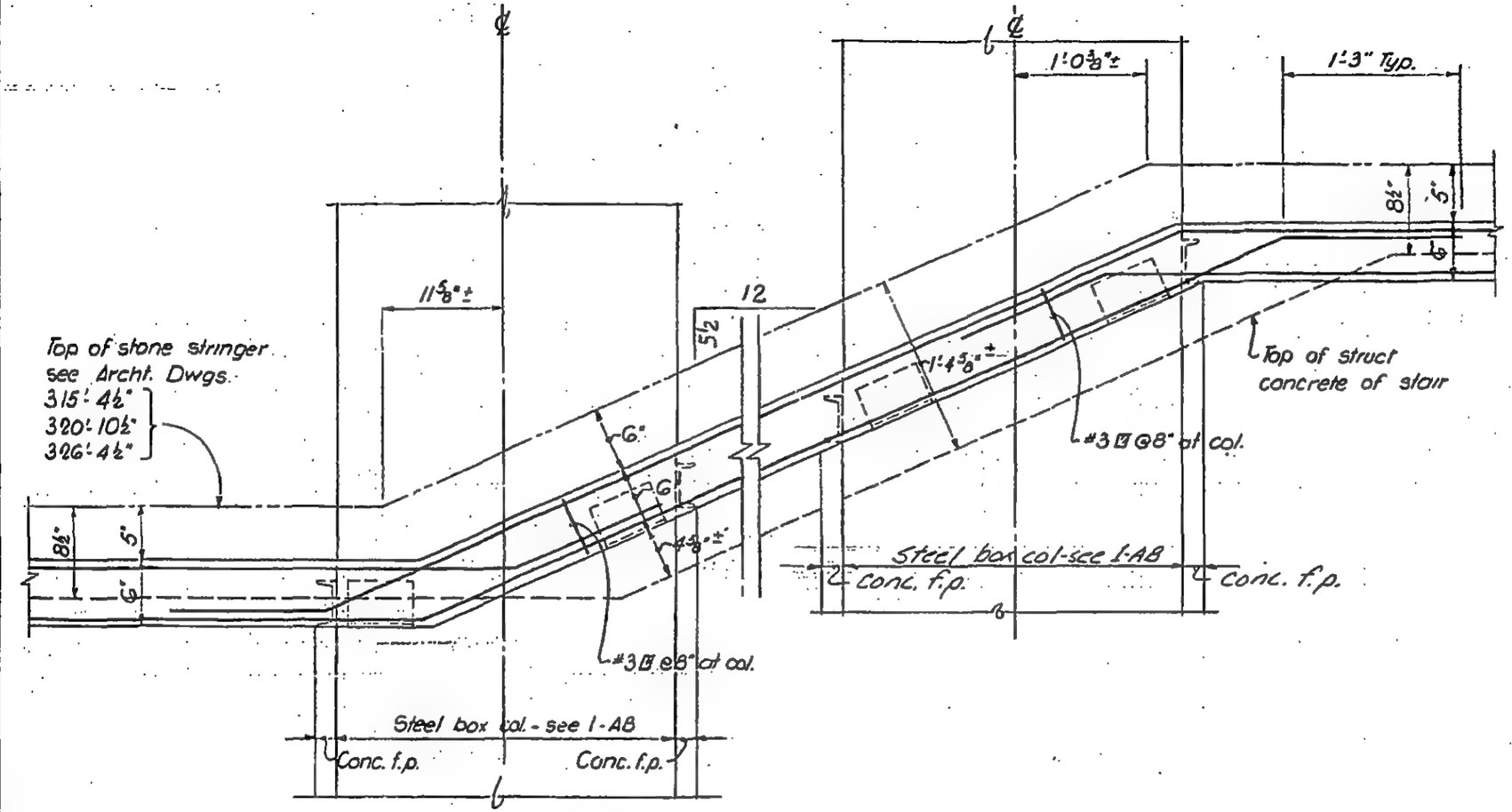
LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

8-AB3-47.3

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE SECTIONS AT FLOOR 2 | DATE 3-19-69

REVISIONS



Detail H

LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

DESIGNED A.L.A.
DRAWN G.T. Hellebranth
REVIEWED

8-AB3-47.4

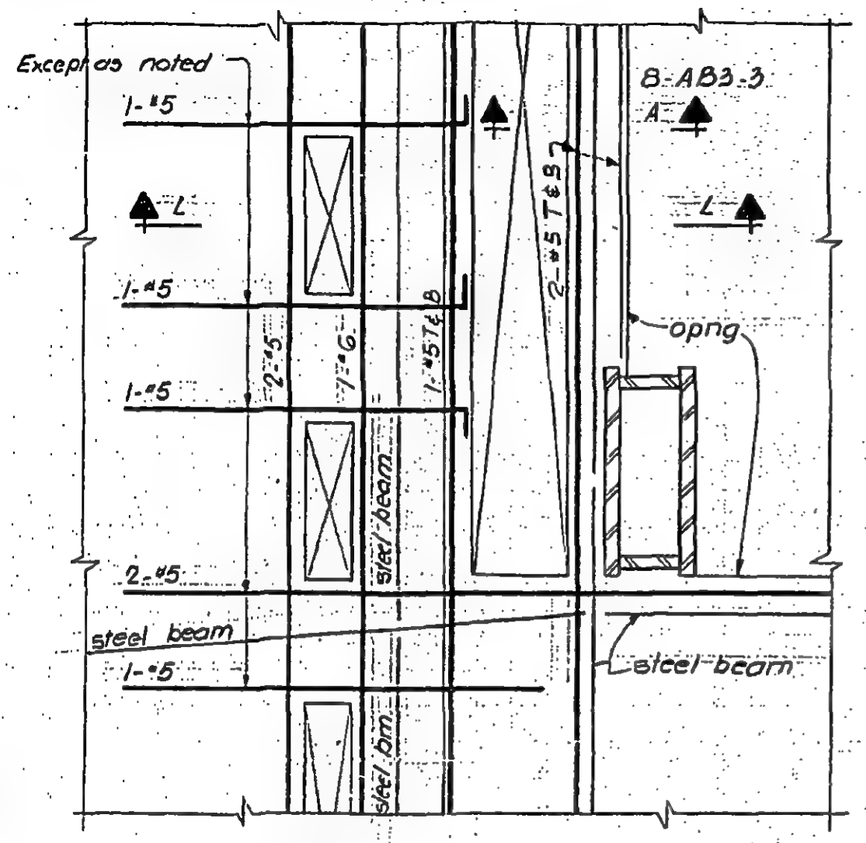
SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE SECTIONS AT FLOOR 2 | DATE 3-1-68

REVISIONS

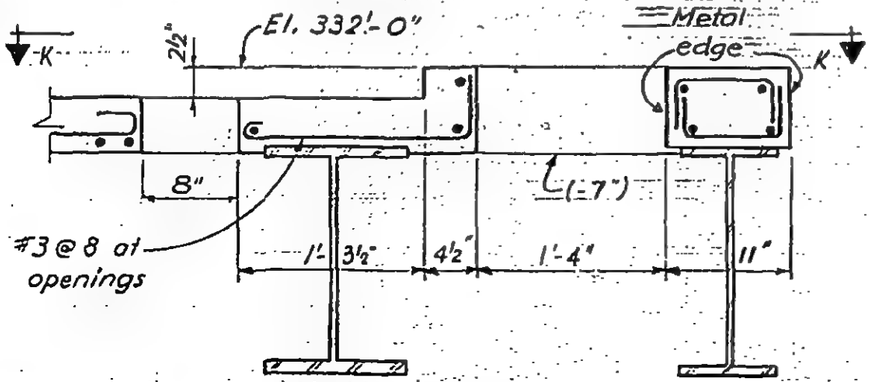
1-28-69

3-19-69

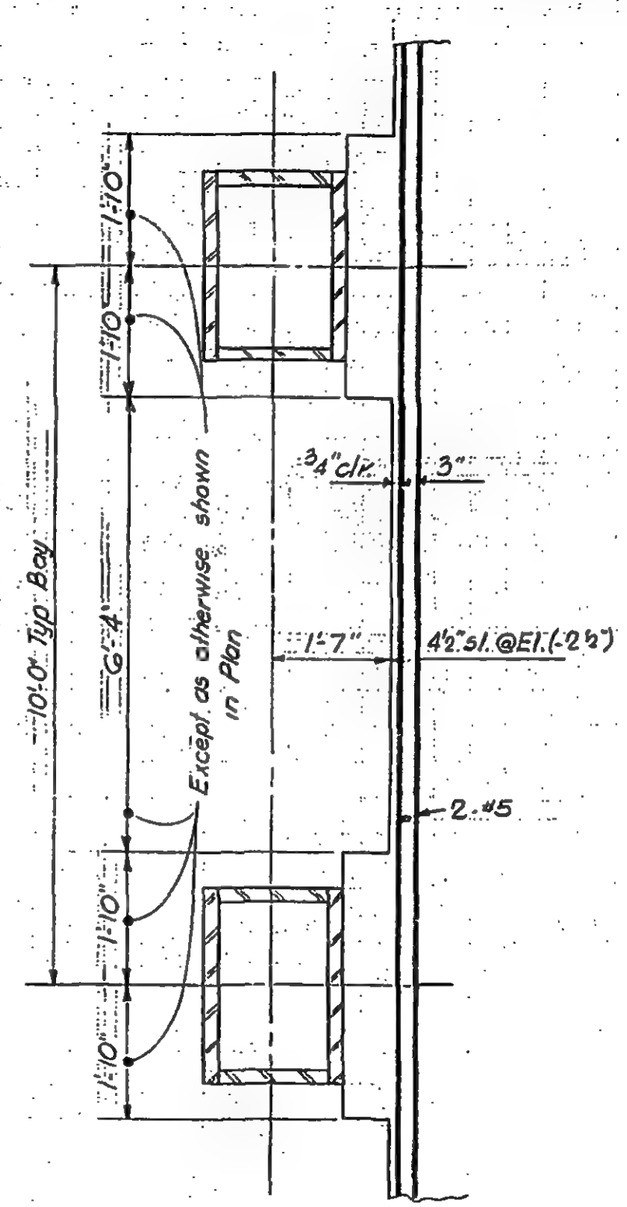


Section K-K

Typ. Sectional Plan at End Walls of Core



Section L-L



Detail 7

Typ Plan at West Wall of Tower A & South Wall of Tower B

8-AB3-47.5

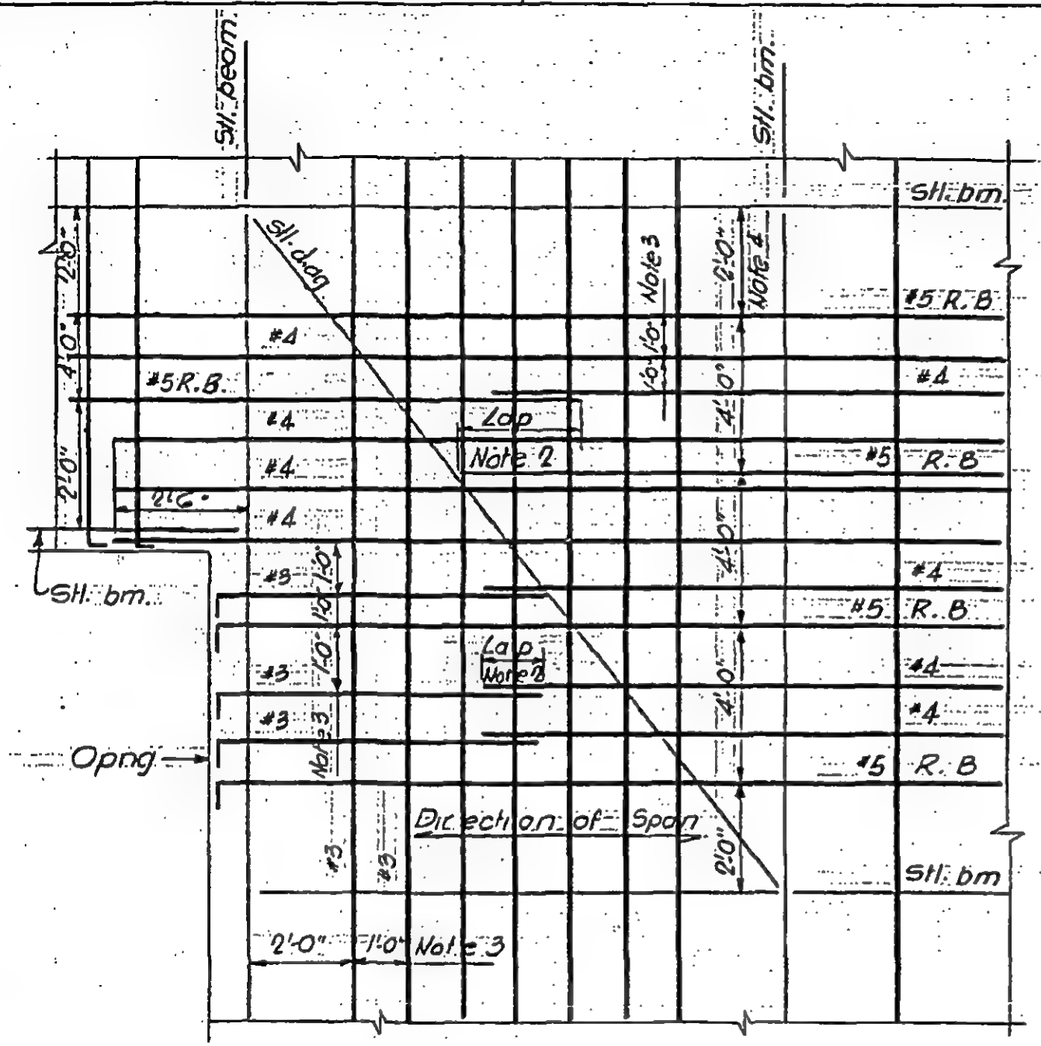
LICENSED PROFESSIONAL ENGINEER LESLIE E. ROBERTSON No. 34360 UNIVERSITY OF THE STATE OF NEW YORK

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE DETAILS AT FLOOR 2 | DATE 3-1-68

REVISIONS

3-19-69



Detail M

Typical Top Reinf.

Notes:

1. Bot. bars as Det. 8-AB4-21
2. Splice top bars by lapping at midspan. Min lap as Det 8-AB1-3
3. Spacings shown are the greatest allowed
4. A band of reinf. bars parallel to a beam may end 2'-0" away from the beam.
5. Place added bars shown in Plan midway bet. typical bars. Length of added bars as Det. 8-AB1-3
6. Sequence of placement:
   a. #5 Raiser Bars.
   b. #3@12 normal to span
   c. Bars @12" in direction of span and added bars, if any.

LICENSED PROFESSIONAL ENGINEER LESLIE E. ROBERTSON No. 34360 STATE OF NEW YORK

8-AB3-47.6

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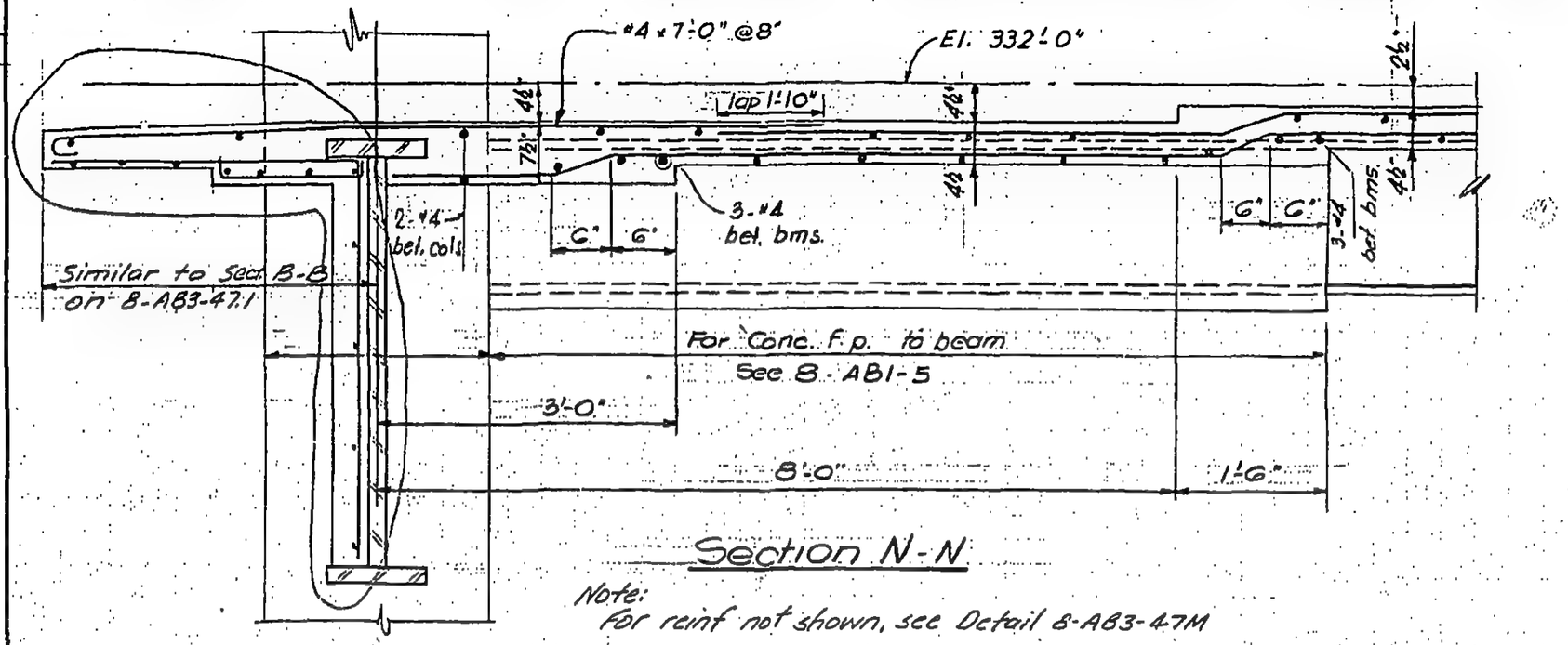
PROJECT THE WORLD TRADE CENTER | TITLE SECTIONS AT FLOOR 2 | DATE 3-1-68

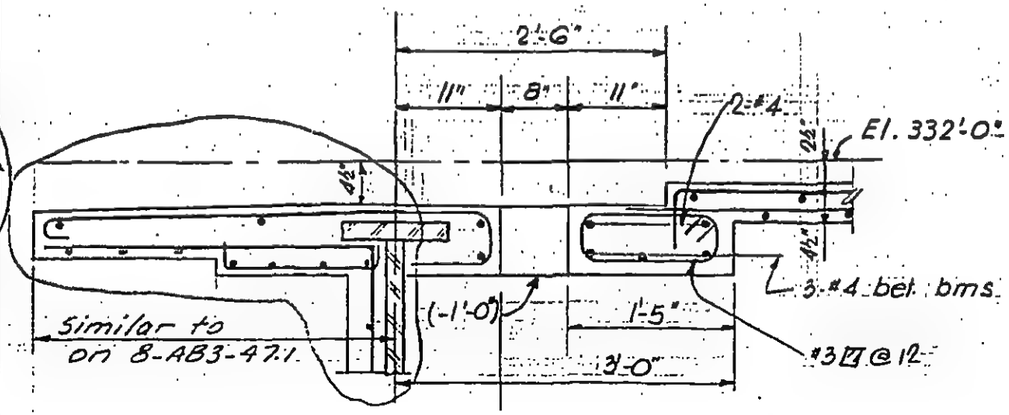
REVISIONS

3-19-69

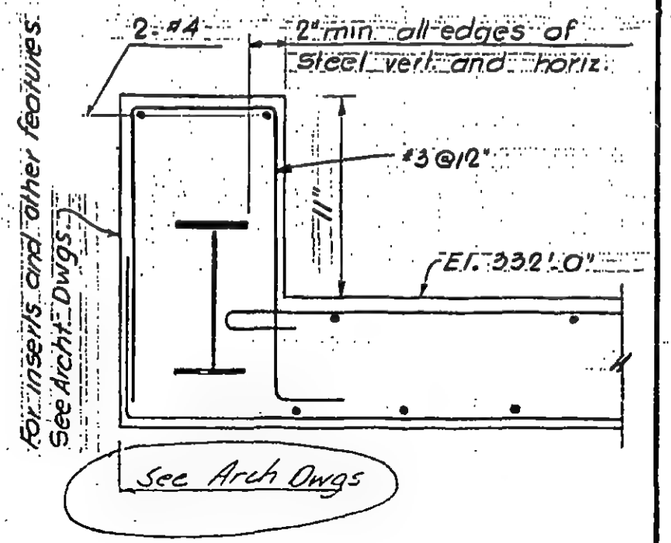


Section N-N

Note:
For reinf not shown, see Detail 8-AB3-47M



Section P-P



Section Q-Q

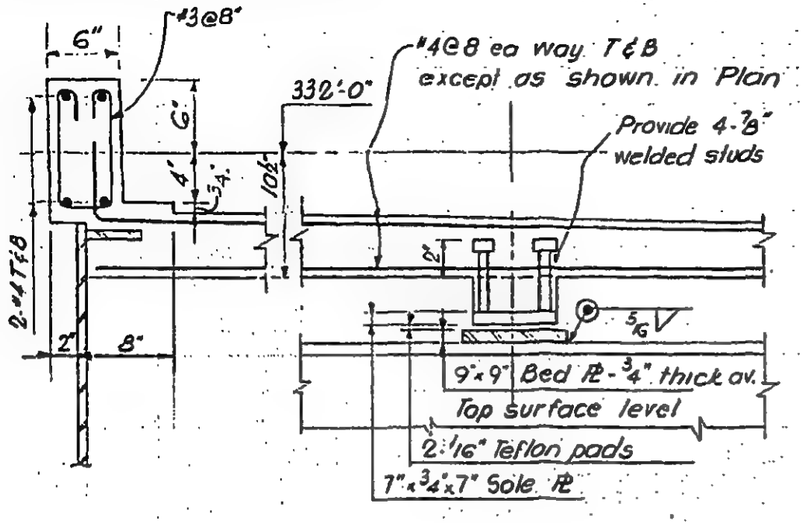
LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

8-AB3-47.7

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

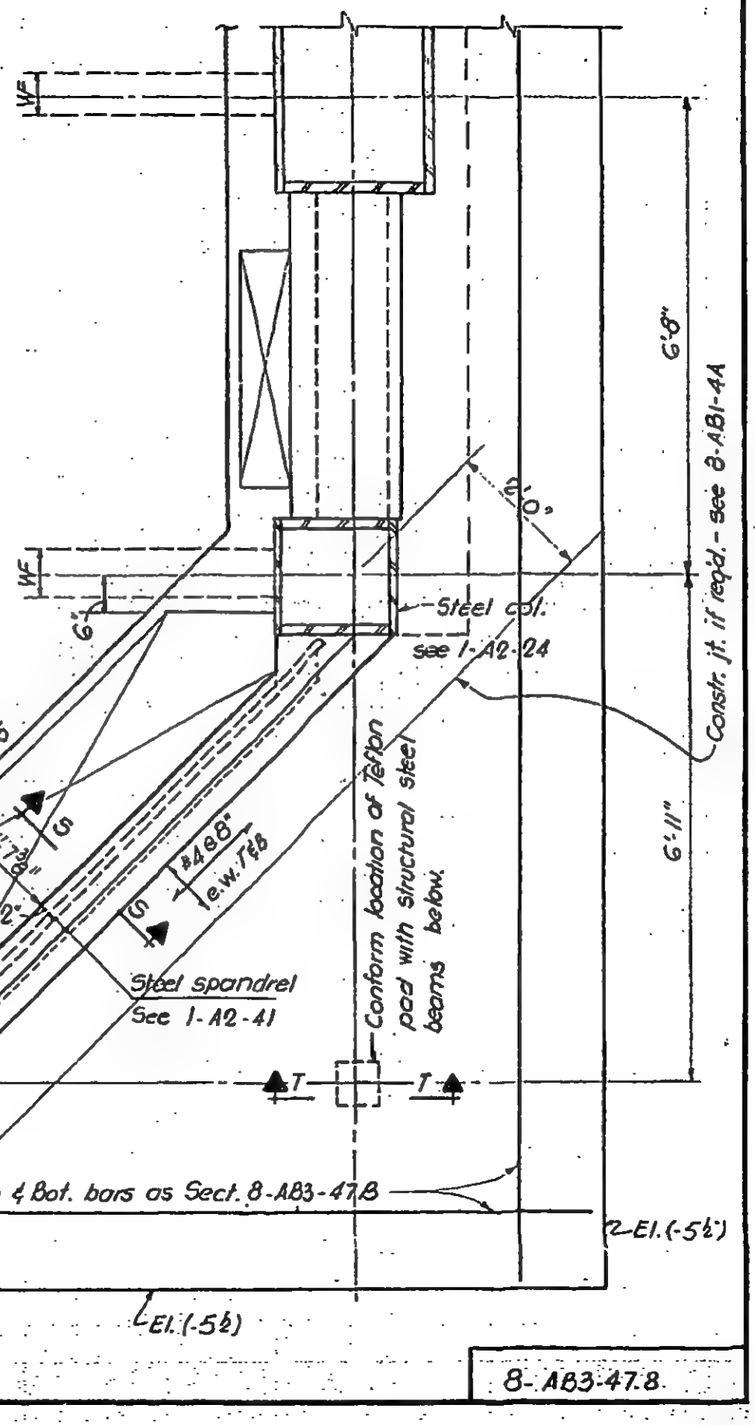
PROJECT: THE WORLD TRADE CENTER | TITLE: SECTIONS AT FLOOR 2 | DATE: 3-19-69

REVISIONS



Section S-S

Section T-T



8-AB3-47.8

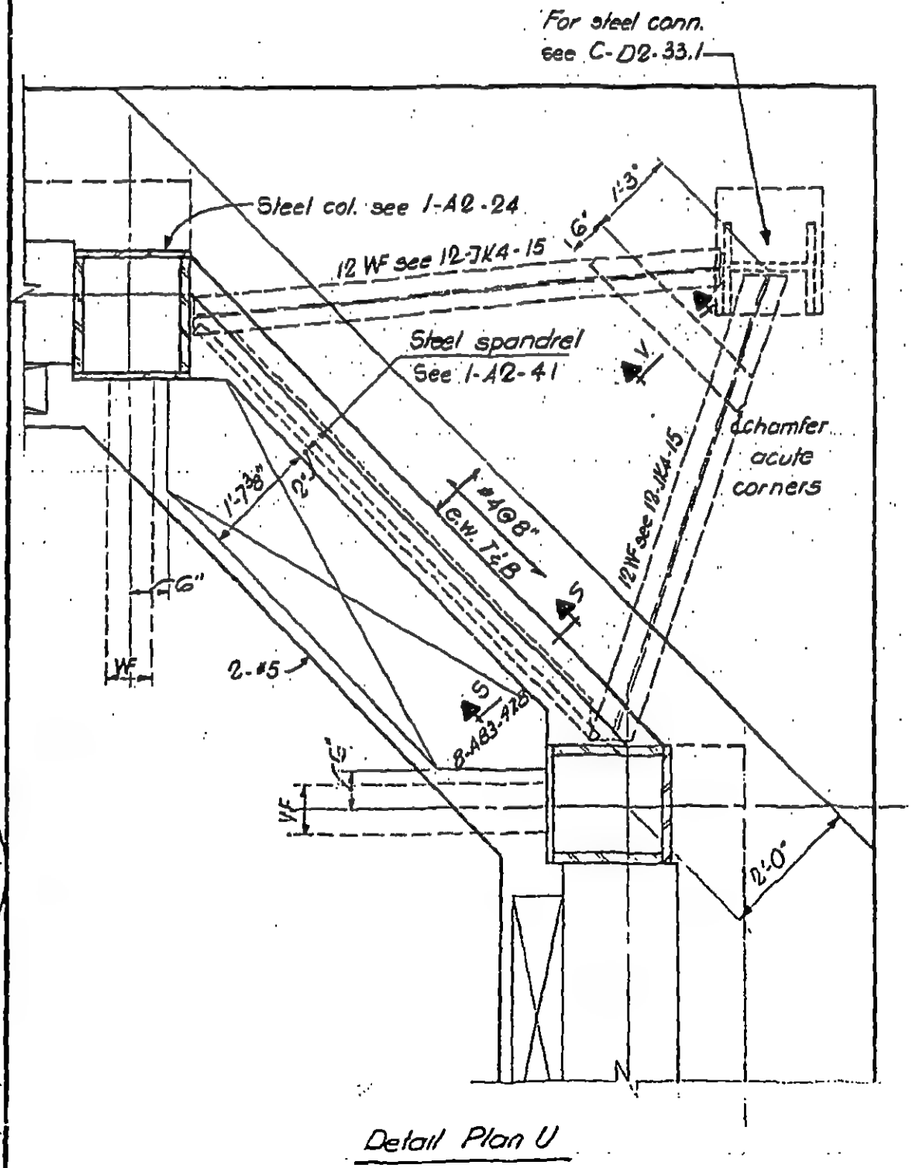
LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

DESIGNED A.L.A.
DRAWN G.T.H.
REVIEWED

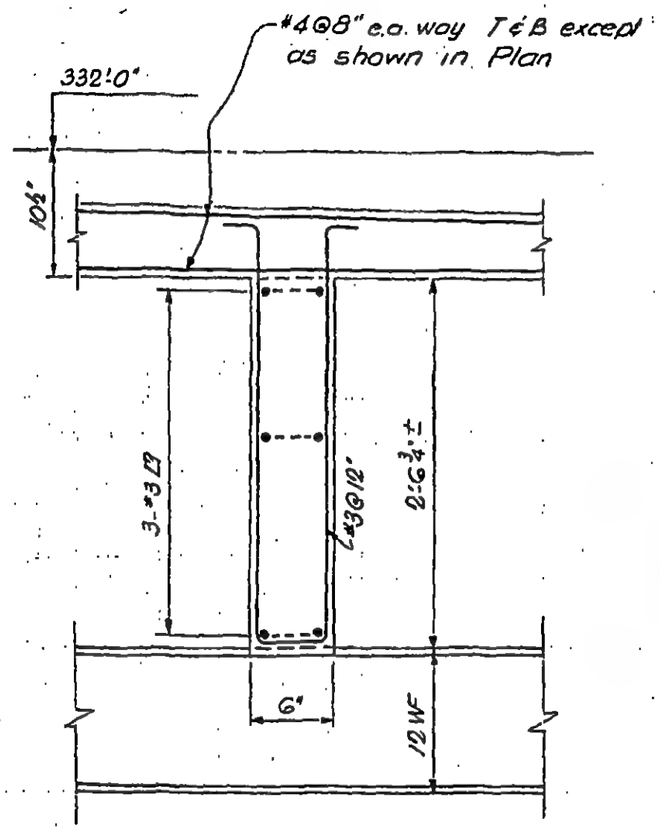
SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE SECTIONS AT FLOOR 2 | DATE 3-19-69

REVISIONS



Detail Plan U



Section V-V

Similar and opp. hand to Plan R on B-483-47.8; except as shown

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DESIGNED A.L.A.

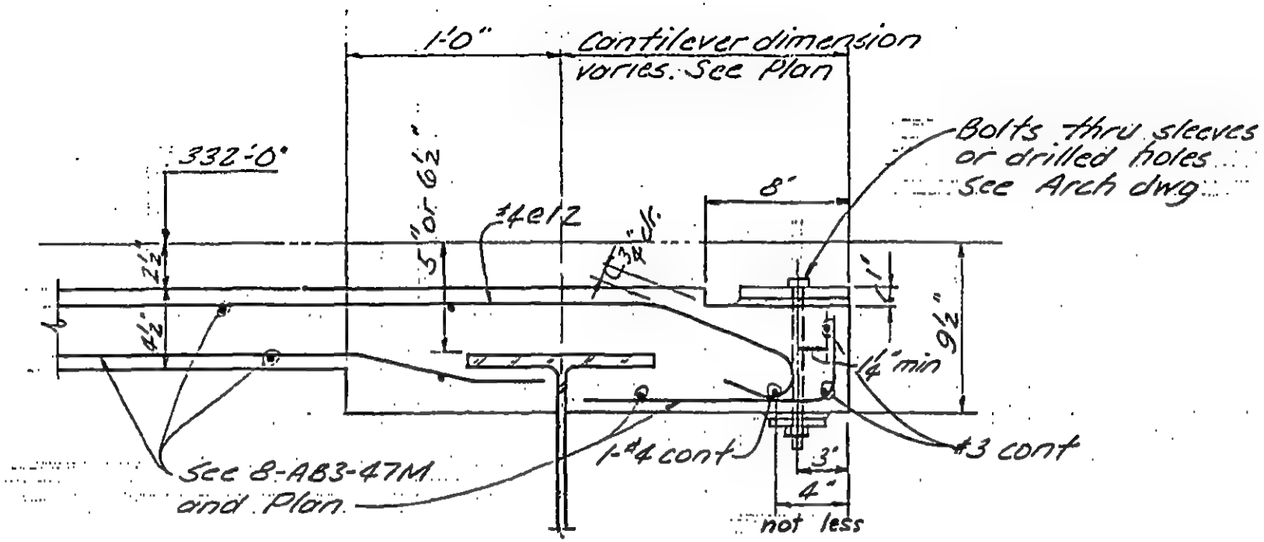
DRAWN G.T. Hellebranth

REVIEWED

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

PROJECT: THE WORLD TRADE CENTER | TITLE: SECTIONS AT FLOOR 2 | DATE: 4-22-69

REVISIONS



Section W-W

Typical for contilever slabs under balcony railing

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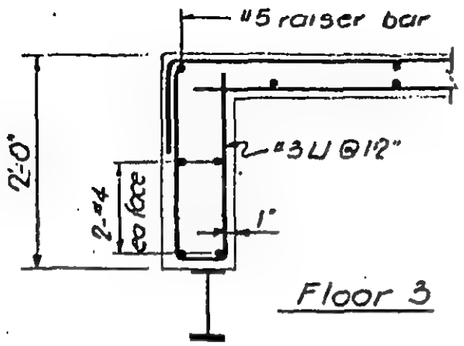
DESIGNED: A.L.A.
DRAWN: J Adams
REVIEWED:

8-AB3-47.10

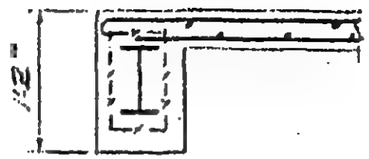
SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE SECTIONS AT FLOORS 3-6 | DATE 3-1-68

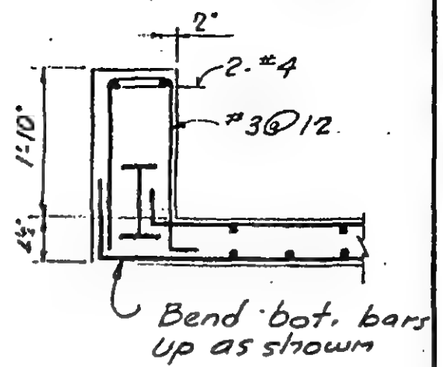
REVISIONS



Floor 3



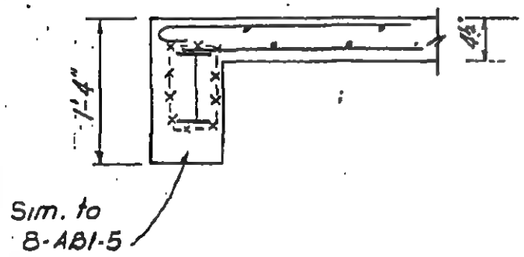
Floor 4



Floor 5

Section A-A

For inserts and other features see Archt. Dwgs.



Floor 6

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8-AB3-48

106

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

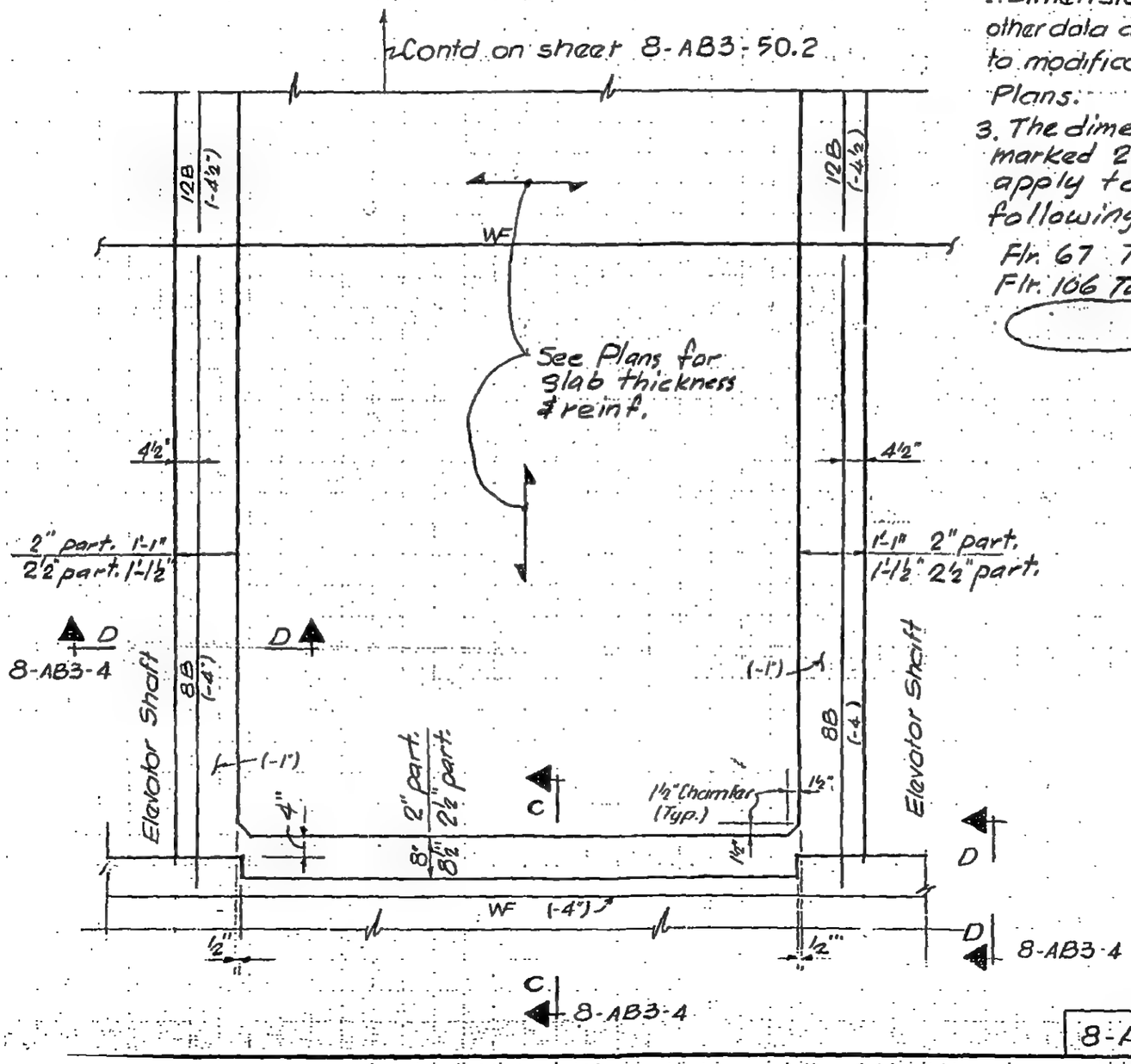
PROJECT THE WORLD TRADE CENTER | TITLE TYP. LOCAL ELEVR. LOBBY | DATE 3-1-68

REVISIONS

5/31/68
12-1-70

Notes:

1. For reinf. not shown see 8-AB1-3
2. Dimensions and other data are subject to modification-see Plans.
3. The dimensions marked 2½" partitions apply to the following floors only.
   Flr. 67 Tower A
   Flr. 106 Tower A & B



8-AB3-50.1

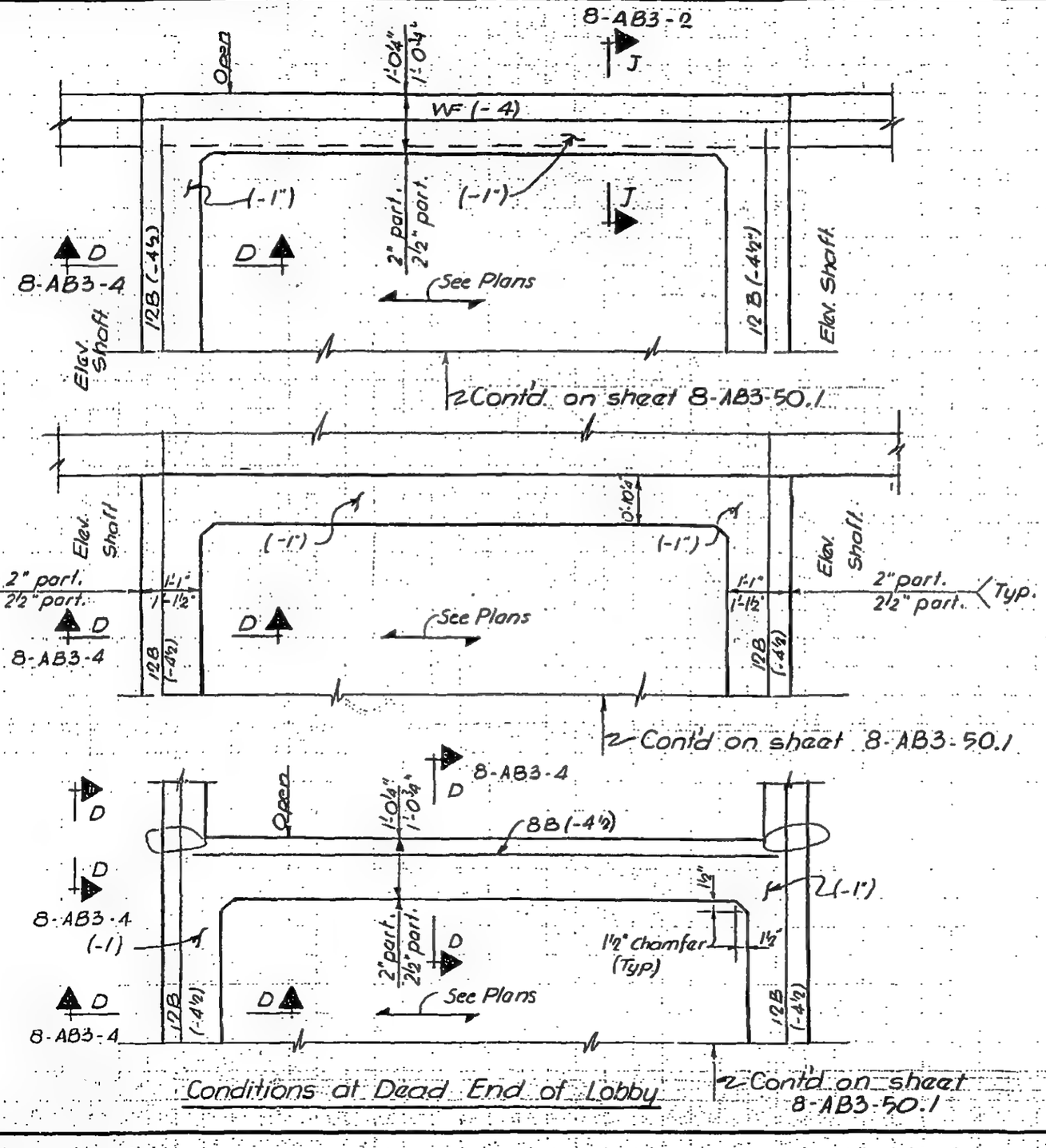
LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 3436
UNIVERSITY OF THE STATE

17

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON — Structural & Civil Engineers

PROJECT: THE WORLD TRADE CENTER | TITLE: TYP. LOCAL ELEVR. LOBBY. | DATE: 3-1-68

REVISIONS
5/31/68
1-17-69



Conditions at Dead End of Lobby

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18

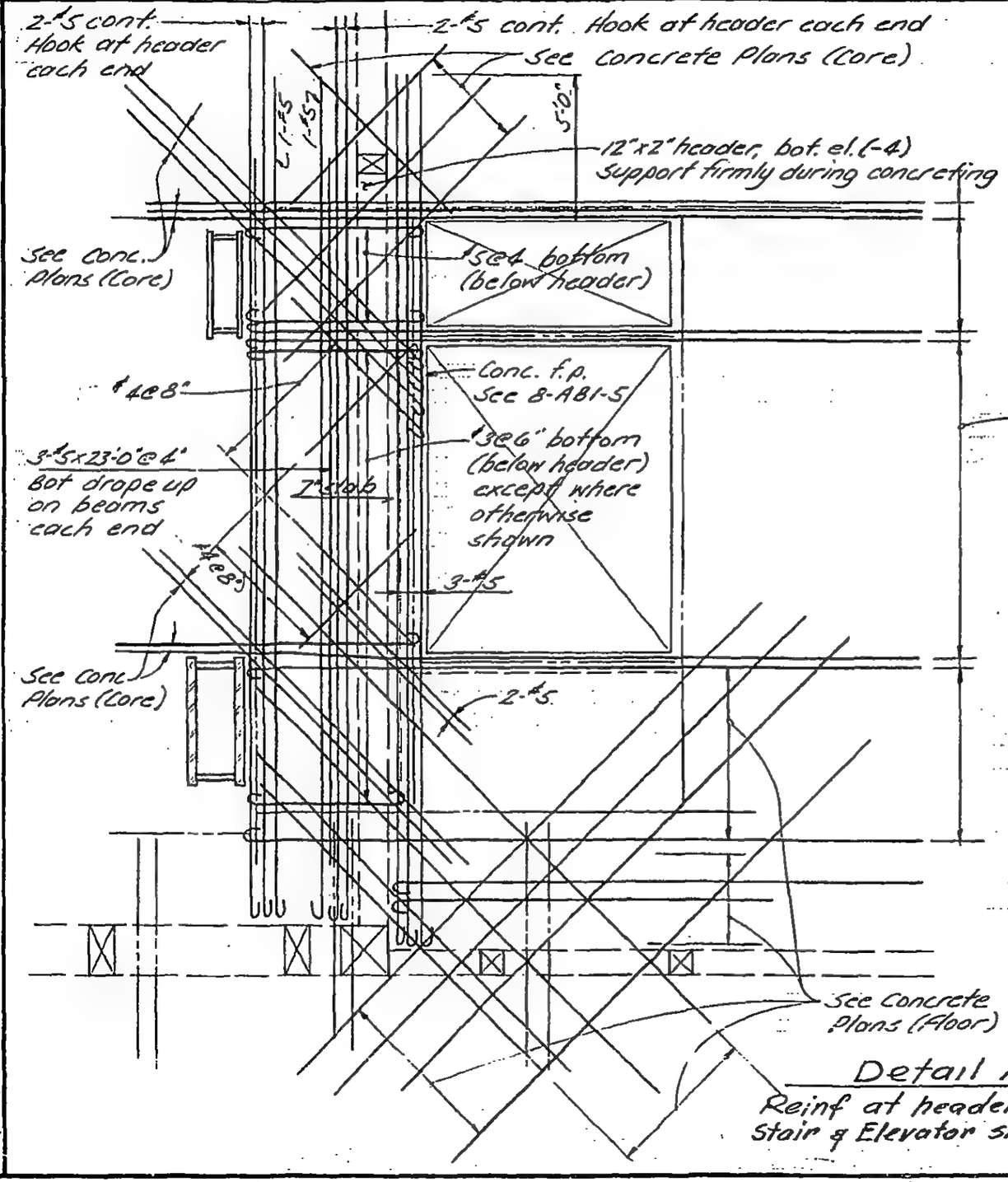
8-AB3-50.2

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

PROJECT: THE WORLD TRADE CENTER | TITLE: STAIR OUTSIDE CORE | DATE: 3-1-68

REVISIONS

10-24-69
Gen. rev.



Notes:
Floor 46 @ Col 1008 shown. Other locations similar and/or opp. hand. For modifications and for additional reinf. see applicable plans and details.

Detail A

Reinf at header placed between Stair & Elevator shaft.

8-AB3-51

DESIGNED

DRAWN
J Adams

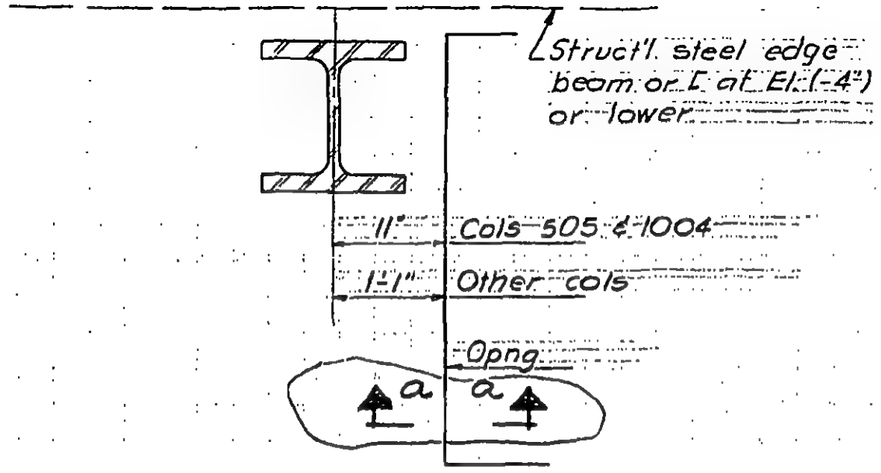
REVIEWED

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

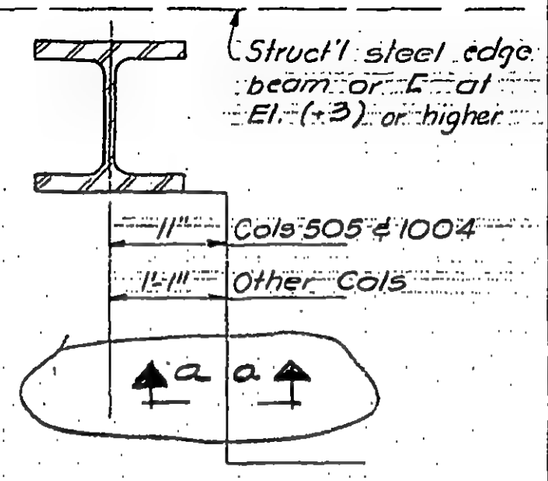
PROJECT THE WORLD TRADE CENTER | TITLE OUTLINE OF OPENINGS ON COLUMN LINES 500 AND 1000 | DATE 3-1-68

REVISIONS

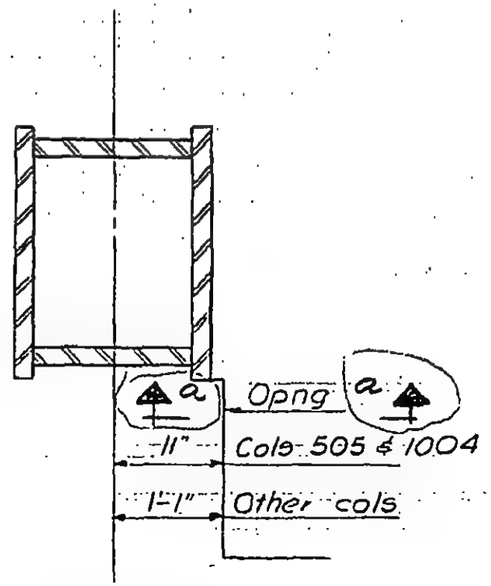
5/31/68



Detail B



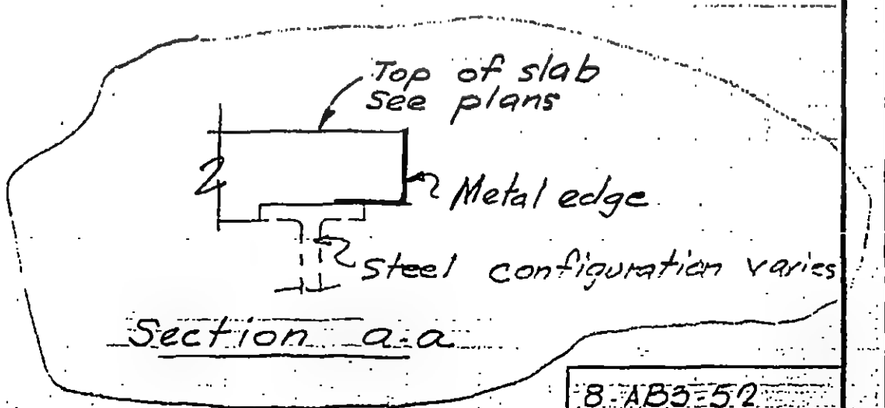
Detail C



Detail A

Notes:

1. For outline at core corner columns 501, 508, 1001, 1008 see 8-AB3.55
2. Use this detail also for openings opposite hand to those shown.



Section a-a

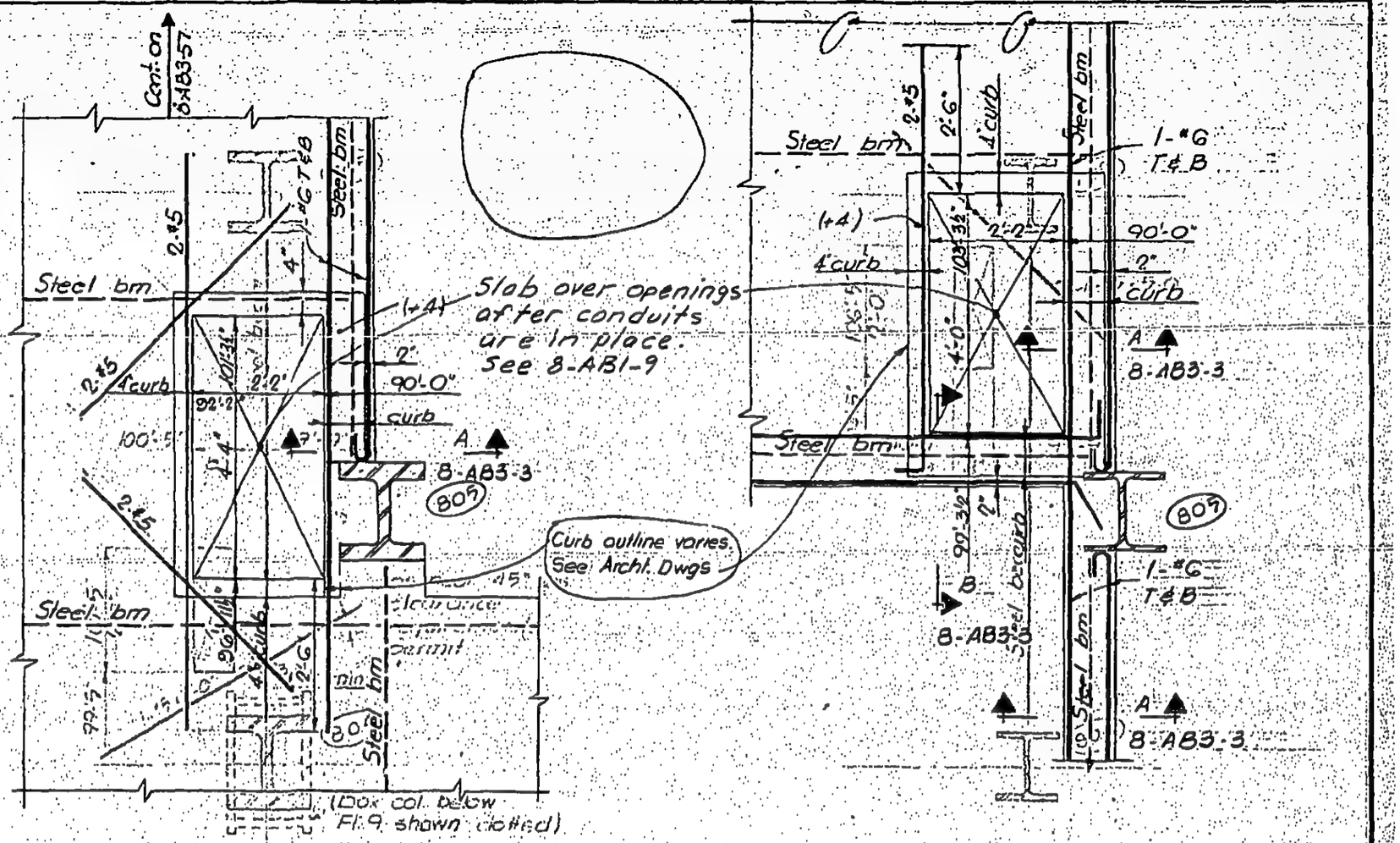
8-AB3.52

LICENSED PROFESSIONAL ENGINEER LESLIE E. ROBERTSON No. 34360 UNIVERSITY OF THE STATE OF NEW YORK

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE OPENINGS IN ELECTR. CLOSETS 'C' | DATE 3-1-68

REVISIONS
8-20-68-69
1-17-69



Sublevel 4 - Fl. 75

Floors 2-40 and 44-74
Floor 17 shown. Other floors similar; for modifications see Plans.

Floor 76 - 109

Floors 79-107
Floor 87 shown. Other floors similar; for modifications see Plans.

Note:
Cont around, do not cut, bars running N-S at opng.

8-AB3-53

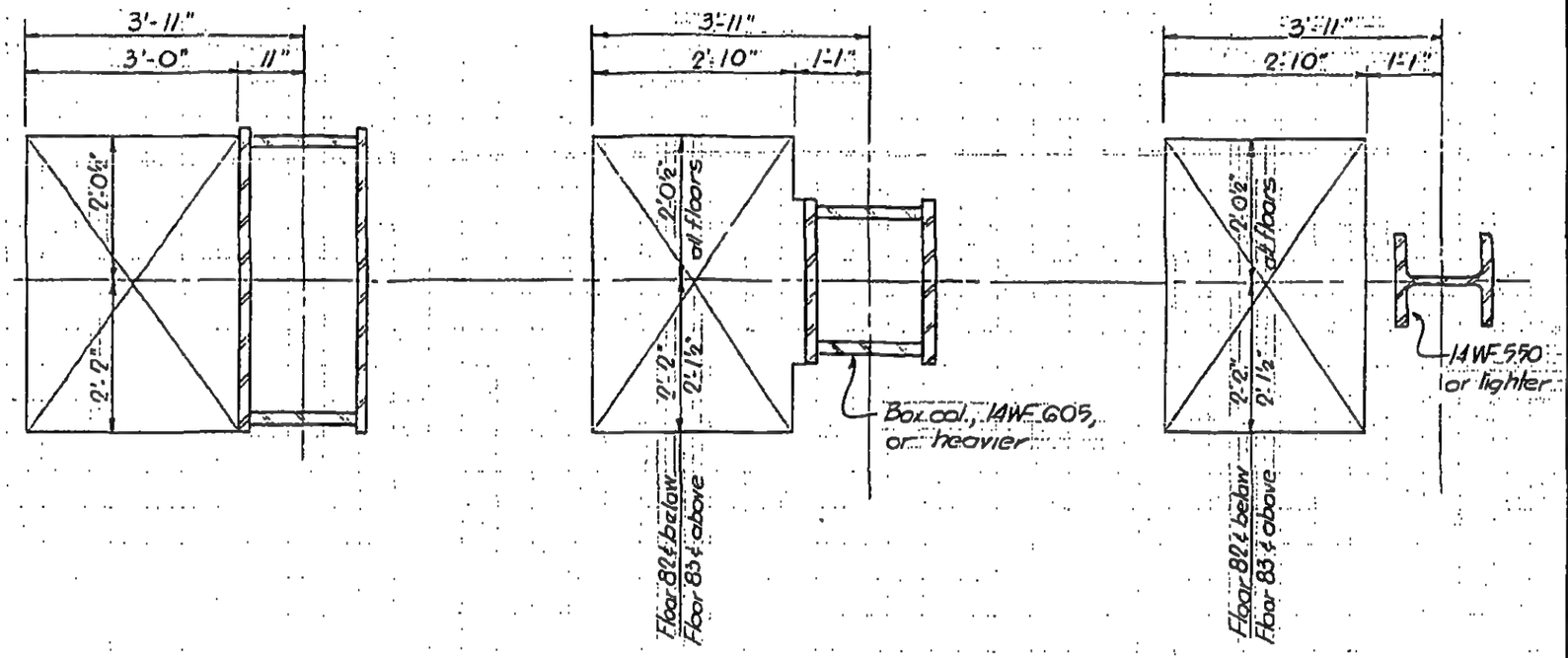
SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT: TIIE WORLD TRADE CENTER | TITLE: SHAFTS AT CORNERS OF CORE | DATE: 3-1-68

REVISIONS

4-8-69

Cols 501, 1008 shown. Cols. 508, 1001 opposite hand



Detail A Detail B Detail C

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LESLIE E. ROBERTSON
No. 34260
UNIVERSITY OF THE STATE OF NEW YORK

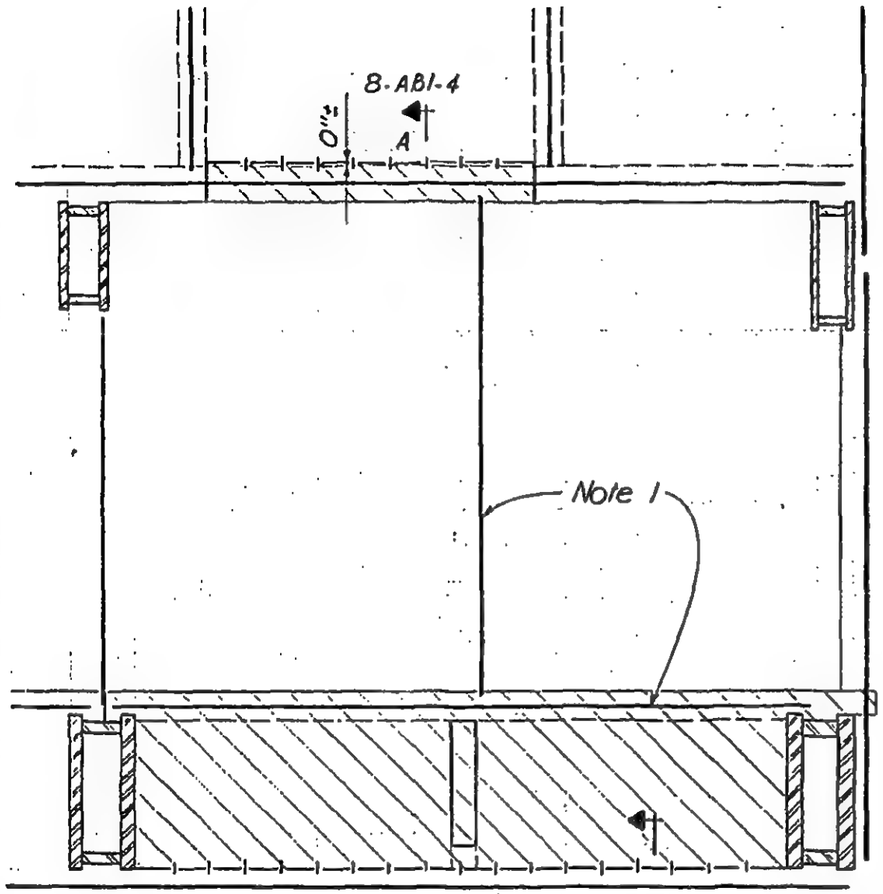
8-AB3-55.1

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE SHAFTS AT CORNERS OF CORE | DATE 11-19-68

REVISIONS

12-16-68
4-8-69



Detail D

At Floor 1, El. 310'-0"

Col. 1008 shown
Col. 501 similar
Cols. 508 & 1001 similar & opp. hand.

Notes:

1. This steel beam will be erected after the general concreting at this level. Concrete shaded areas after its erection.
2. Floor 1 is shown in Detail at left. The following floors are similar (although sizes and fireproofing of steel members and extent of slabs vary):
   Service Level El. 294'-0"
   Intermediate Level El. 324'-0"
   Floor 2, El. 332'-0"
   Floors 3-45
3. Constr. joints are shown thus: —|—|— For constr. jts in slabs & conc. fireproofing to beams see 8-AB1-4. Full details of construction shall be submitted in Shop Dwgs. See Note #3 on 8-AB1-4.1

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DESIGNED A-L.A.
DRAWN G.T.H.
REVIEWED

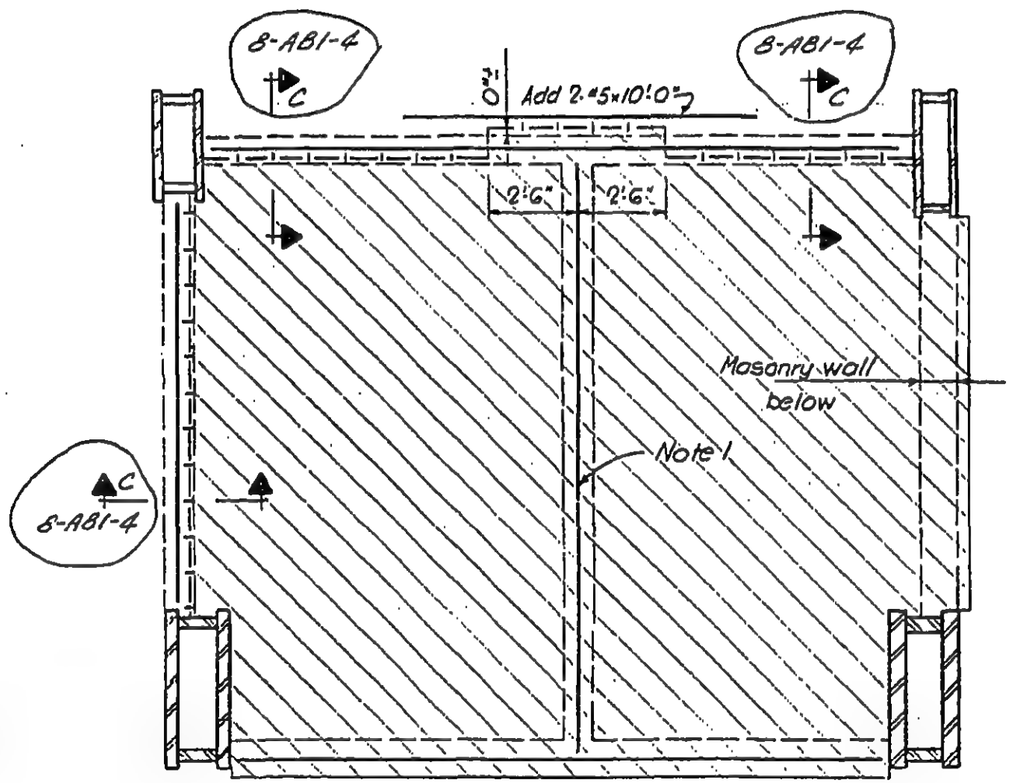
8-AB3-55.2

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE SHAFTS AT CORNERS OF CORE | DATE 12-16-68

REVISIONS

4-8-69



Notes:

1. This steel beam will be erected after the general concreting at this level. Concrete shaded areas after its erection.
2. For constr. jts. in slabs & conc. fireproofing to beams see 8-AB1-4. Full details of construction shall be submitted in Shop Dwgs. see Note #3 on 8-AB1-4.1

Detail E - Tower A El. 254'-0"

Col. 1008 shown
Col. 508 opp. hand

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DRAWN G.T.H.
REVIEWED

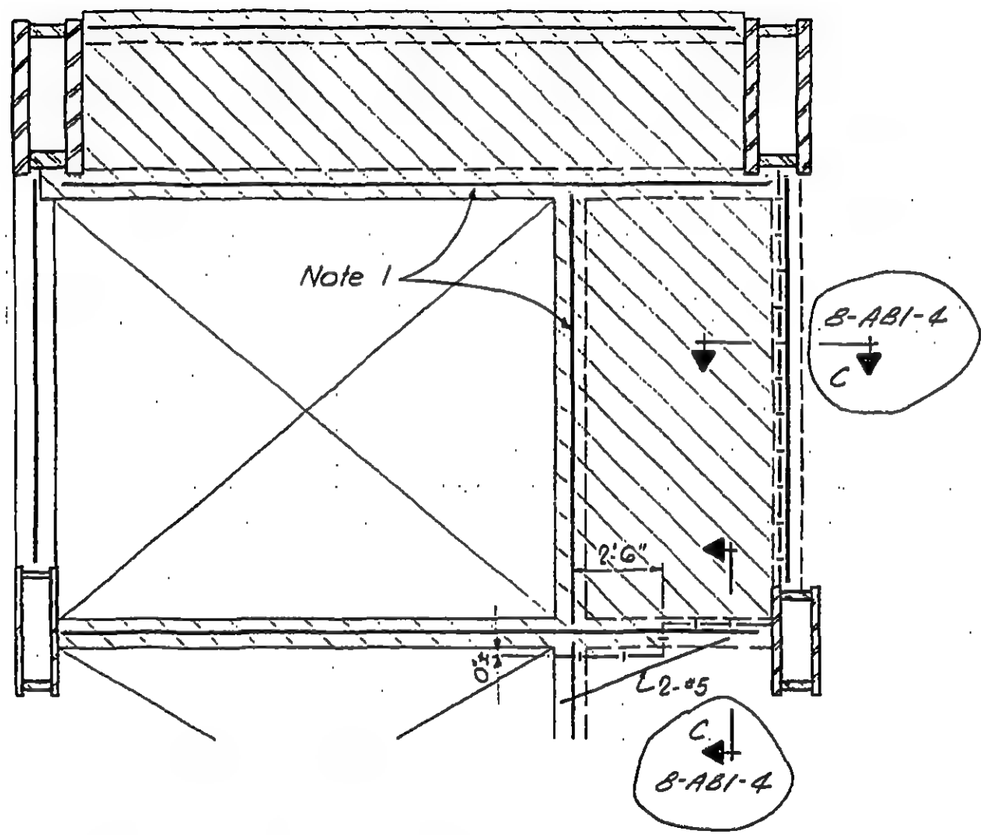
8-AB3-55.3

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

PROJECT: THE WORLD TRADE CENTER | TITLE: SHAFTS AT CORNERS OF CORE | DATE: 12-16-68

REVISIONS

4-8-69



Detail F - Tower A El. 255'-6"

Col. 501 shown
Col. 1001 opp. hand

See Notes on 8-AB3-55.3

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No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

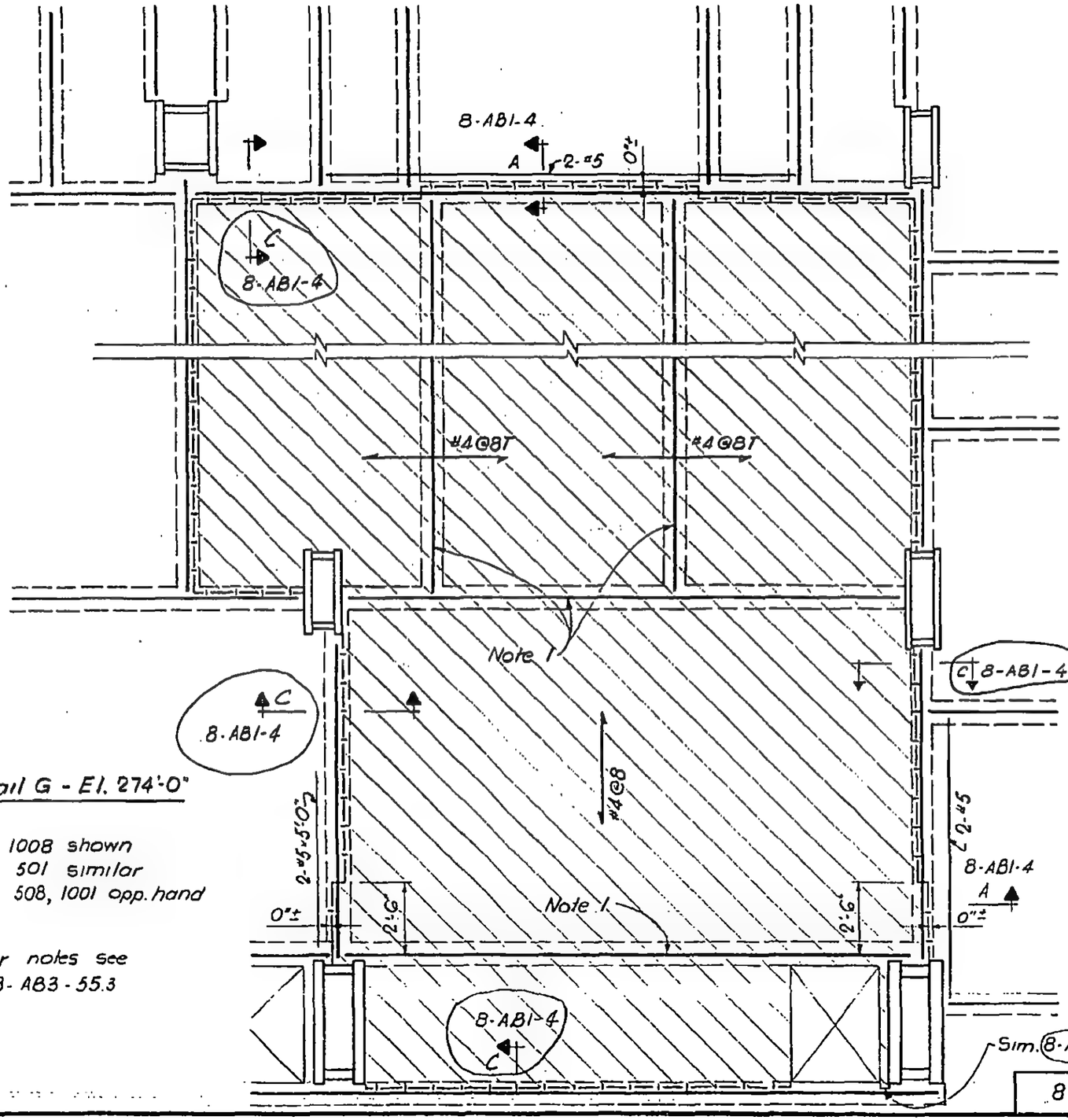
DESIGNED: A.L.A.
DRAWN: G.T.H.
REVIEWED:

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

PROJECT: THE WORLD TRADE CENTER | TITLE: SHAFTS AT CORNERS OF CORE | DATE: 12-16-68

REVISIONS

4-8-69



Detail G - El. 274'-0"

Col. 1008 shown
Col. 501 similar
Cols. 508, 1001 opp. hand

For notes see
8-AB3-55.3

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No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

DESIGNED A.L.A.
DRAWN G.T.H.
REVIEWED

8-AB3-55.5

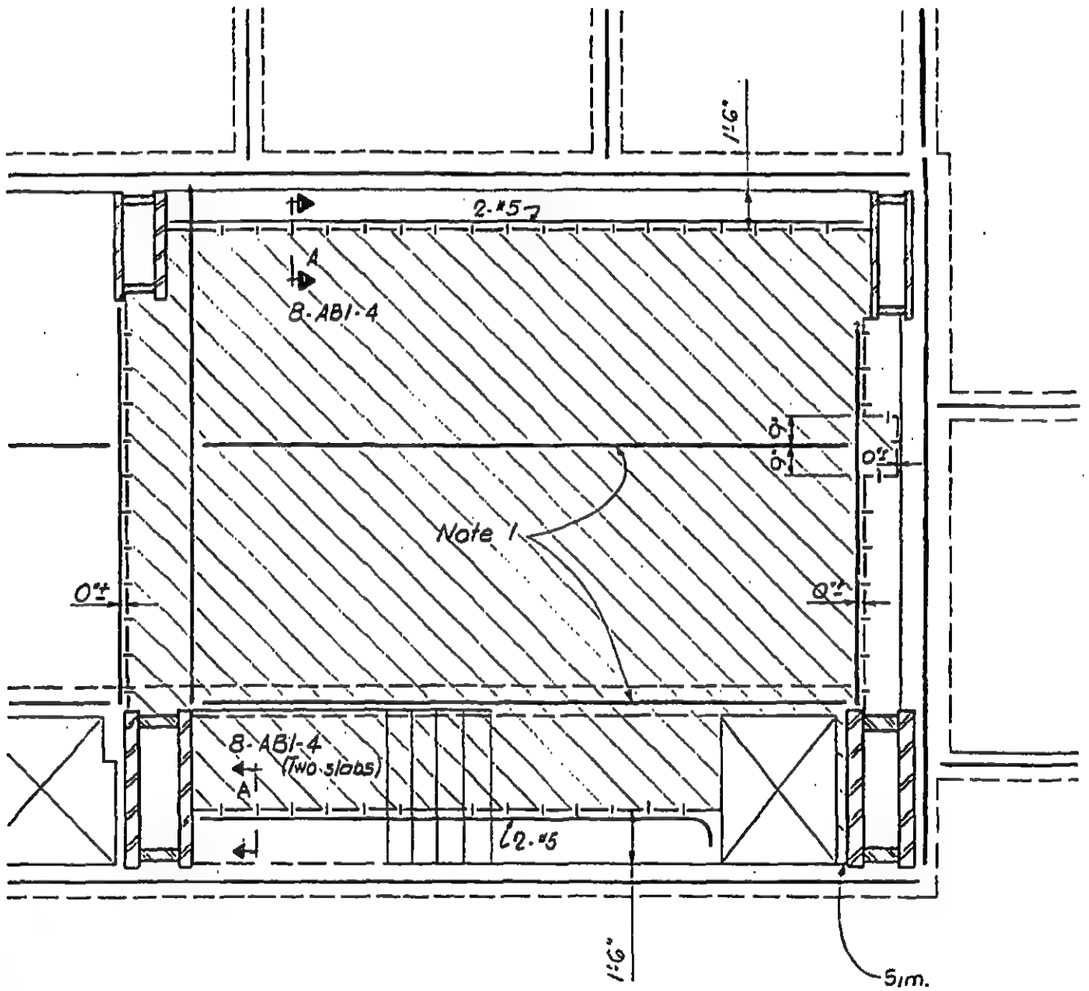
SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

PROJECT: THE WORLD TRADE CENTER | TITLE: SHAFTS AT CORNERS OF CORE | DATE: 12-16-68

REVISIONS

4-8-69

10-24-69



Detail H - El. 284'-0"

Col. 1008 A shown
Col. 501 A & B similar
Cols. 506 B, 508 A, 1001 A & B opp hand.

For notes see 8-AB3-55.3 and 8-AB1-4.3

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No. 34980
UNIVERSITY OF THE STATE OF NEW YORK

A.L.A.
DESIGNED

DRAWN
G.T.H.

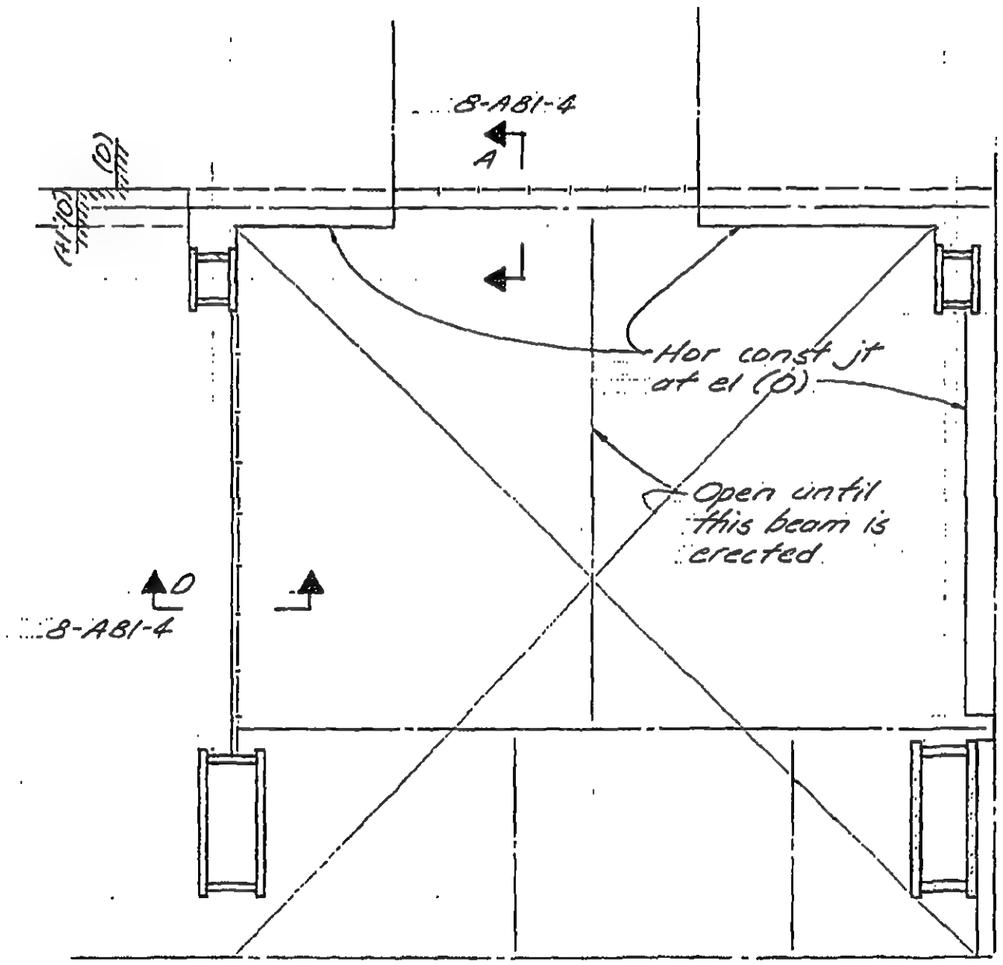
REVIEWED

8-AB3-55.6

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

PROJECT: THE WORLD TRADE CENTER | TITLE: SHAFTS AT CORNERS OF CORE | DATE: 4-8-69

REVISIONS



Detail J

Drawn for Floor 46 at col 1008

Other locations similar and/or opp hand

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LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

DESIGNED: A.L.A.

DRAWN: J. Adams

REVIEWED:

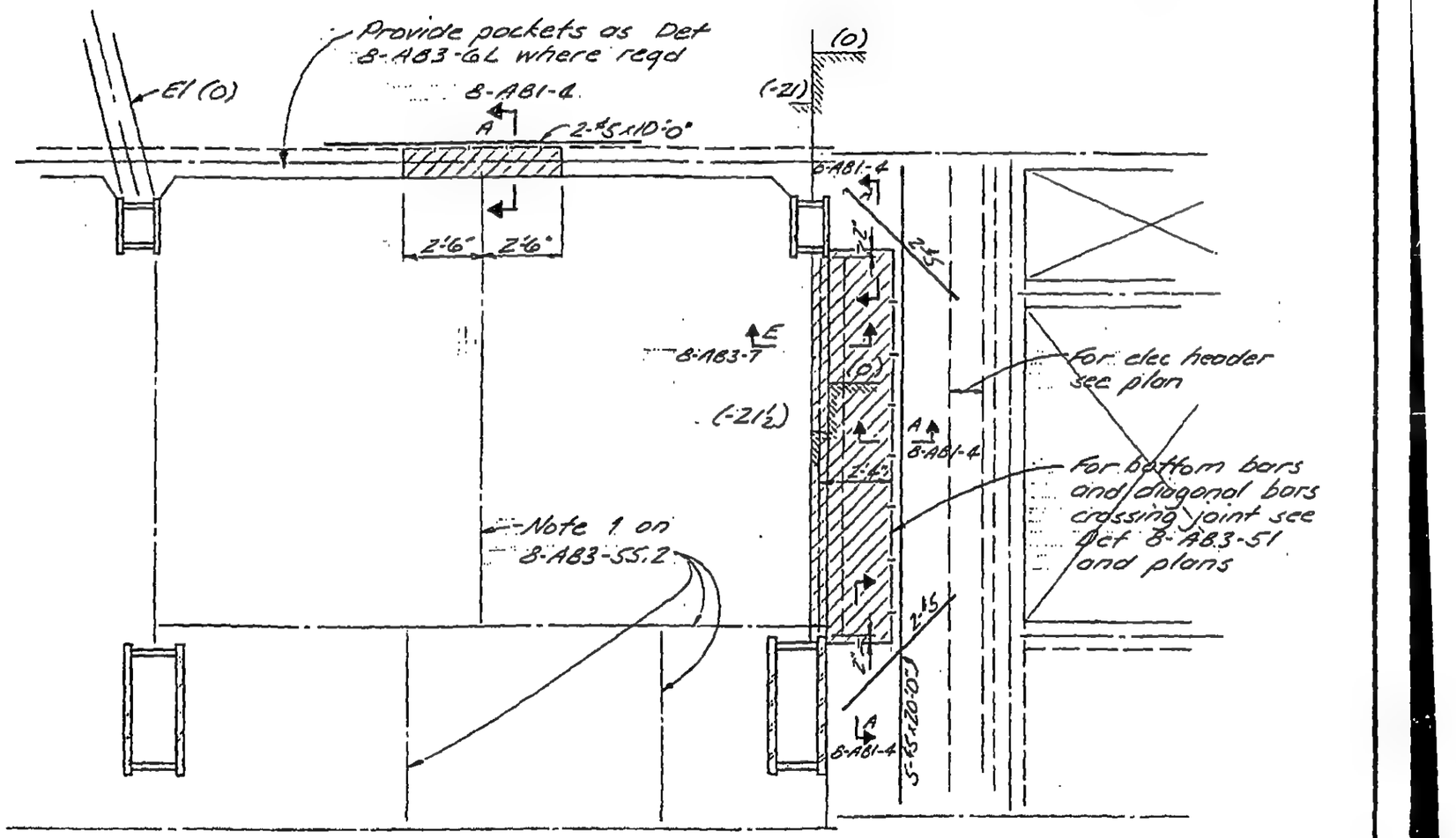
8-AB3-55.7

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

PROJECT: THE WORLD TRADE CENTER | TITLE: SHAFTS AT CORNERS OF CORE | DATE: 4-8-69

REVISIONS

GEN. REV. 5-15-69



Detail K

Drawn for Floor 47 at col. 1008
Other locations similar and for opp. hand

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DESIGNED: A.L.A

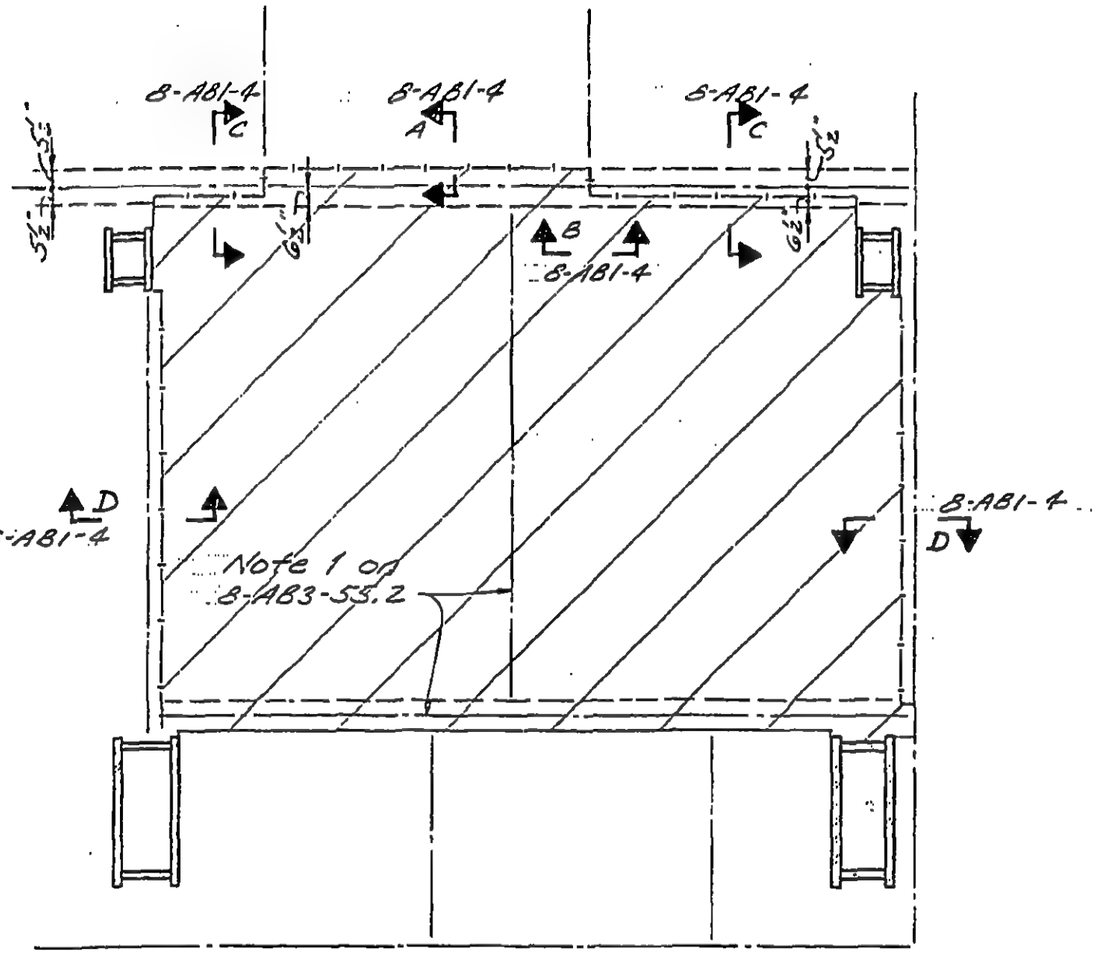
DRAWN: S. Adams

REVIEWED:

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

PROJECT: THE WORLD TRADE CENTER | TITLE: OPENINGS AT CORNERS OF CORE | DATE: 4-8-69

REVISIONS



Detail L

Drawn for Floor 48 at Col 100B
Other locations similar and/or opp hand

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No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

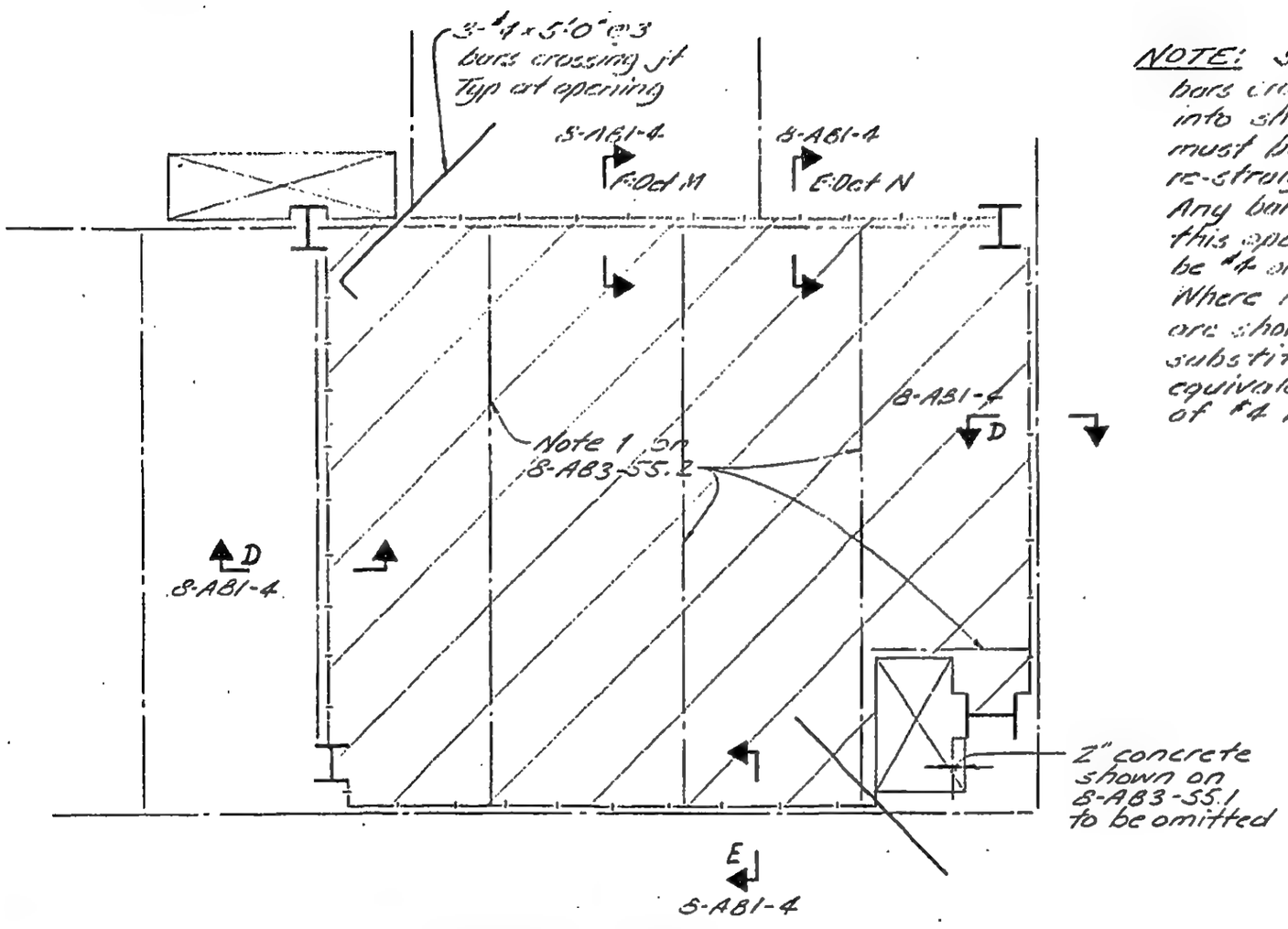
DESIGNED A.L.A.
DRAWN J. Adams
REVIEWED

8-AB3-55.9

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

PROJECT: THE WORLD TRADE CENTER | TITLE: SHAFTS AT CORNERS OF CORE | DATE: 4-8-69

REVISIONS



NOTE: Some of the bars crossing joint into shaded area must be bent and re-straightened. Any bars subject to this operation shall be #4 or smaller. Where larger bars are shown in Plan, substitute an equivalent amount of #4 bars.

Details M & N

Drawn for Floor 87 at Col 1008
Other locations similar and/or opp hand
Openings and other details vary - see Plans

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DESIGNED: A.L.A

DRAWN:

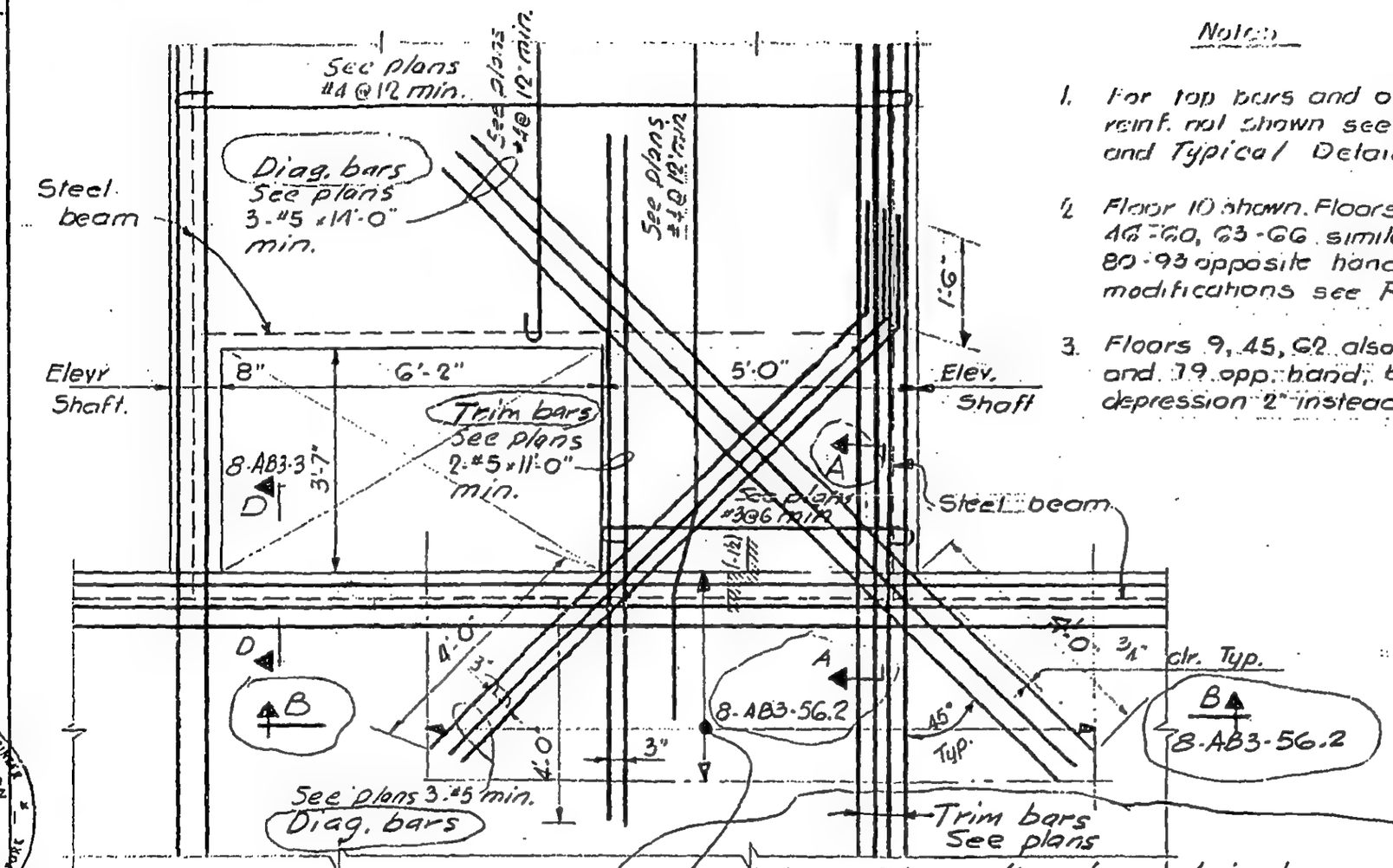
REVIEWED:

8-AB3-55.10

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE SLAB BETWEEN MEN'S TOILET EXHAUST AND ELEVR SHAFTS | DATE 3-1-68

REVISIONS
10/24/69



Notes

1. For top bars and other reinf. not shown see Plans and Typical Details
2. Floor 10 shown. Floors 11-31, 46-60, 63-66 similar, floors 80-93 opposite hand; for modifications see Plans
3. Floors 9, 45, 62 also similar and 79 opp. hand; but depression 2" instead of 1½"

Note: Place diag. bars, trim bars, and NS bottom bar this area before placing EW bottom bars in upper slab. See Sections A-A and B-B 8-AB3-56.2

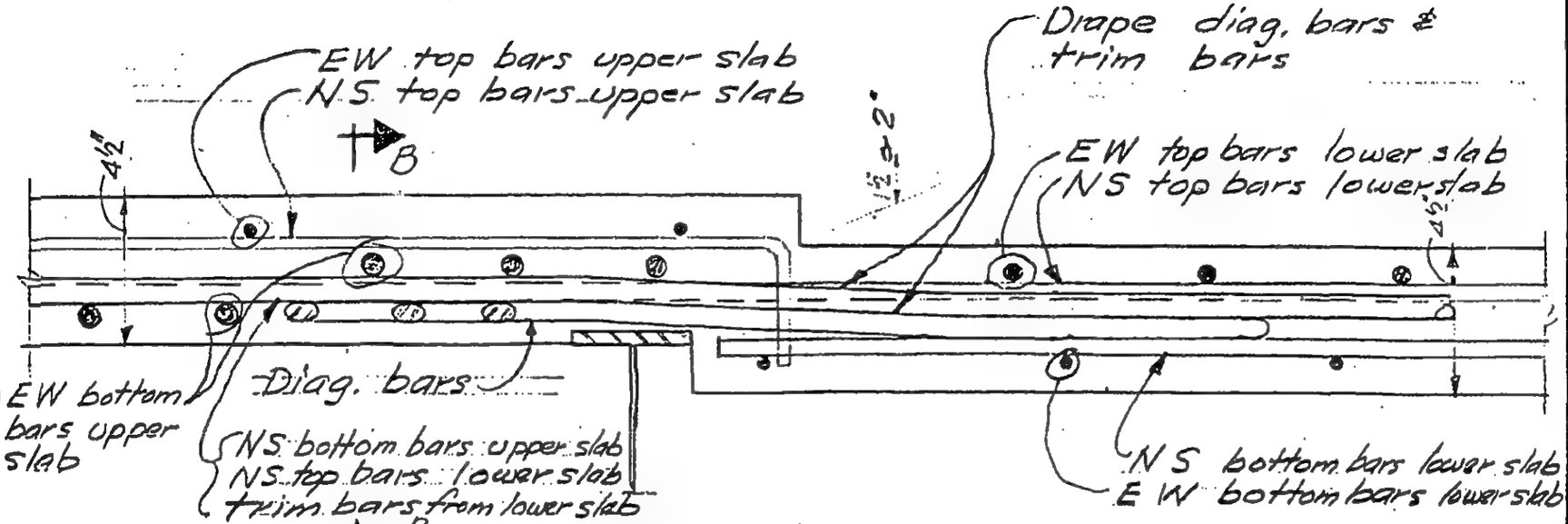
LICENSED PROFESSIONAL ENGINEER LESLIE E. ROBERTSON No. 34360 UNIVERSITY OF THE STATE OF NEW YORK

8-AB3-56.1

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE SLAB BETWEEN MENS TOILET EXHAUST AND ELE. SHAFTS | DATE 10-24-69

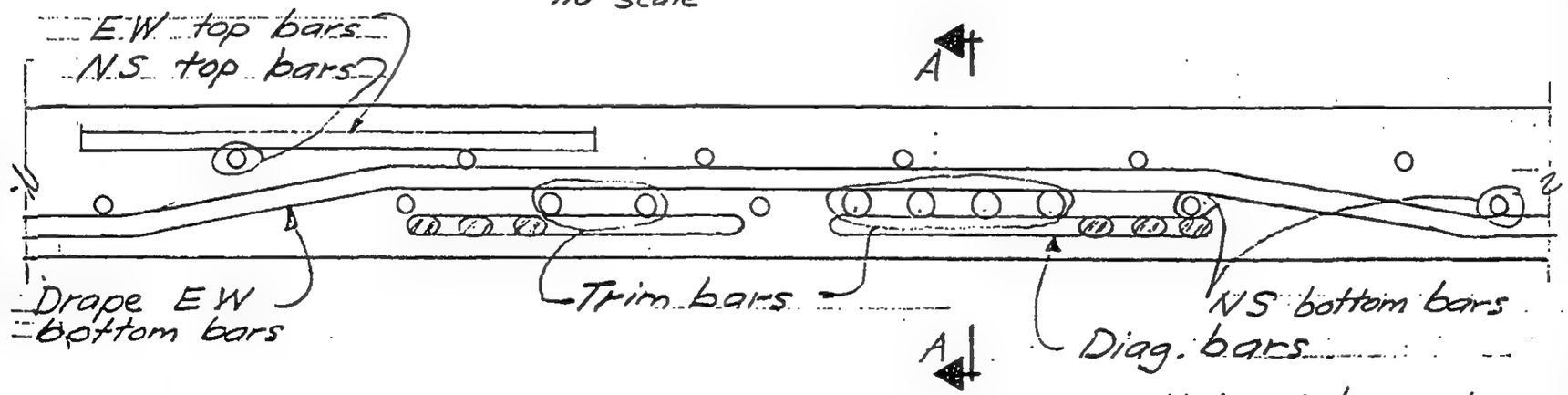
REVISIONS



B

Section A-A

no scale



Section B-B

no scale

Note: Interrupt raiser bars as reqd.

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DESIGNED

DRAWN D.C.Huggins

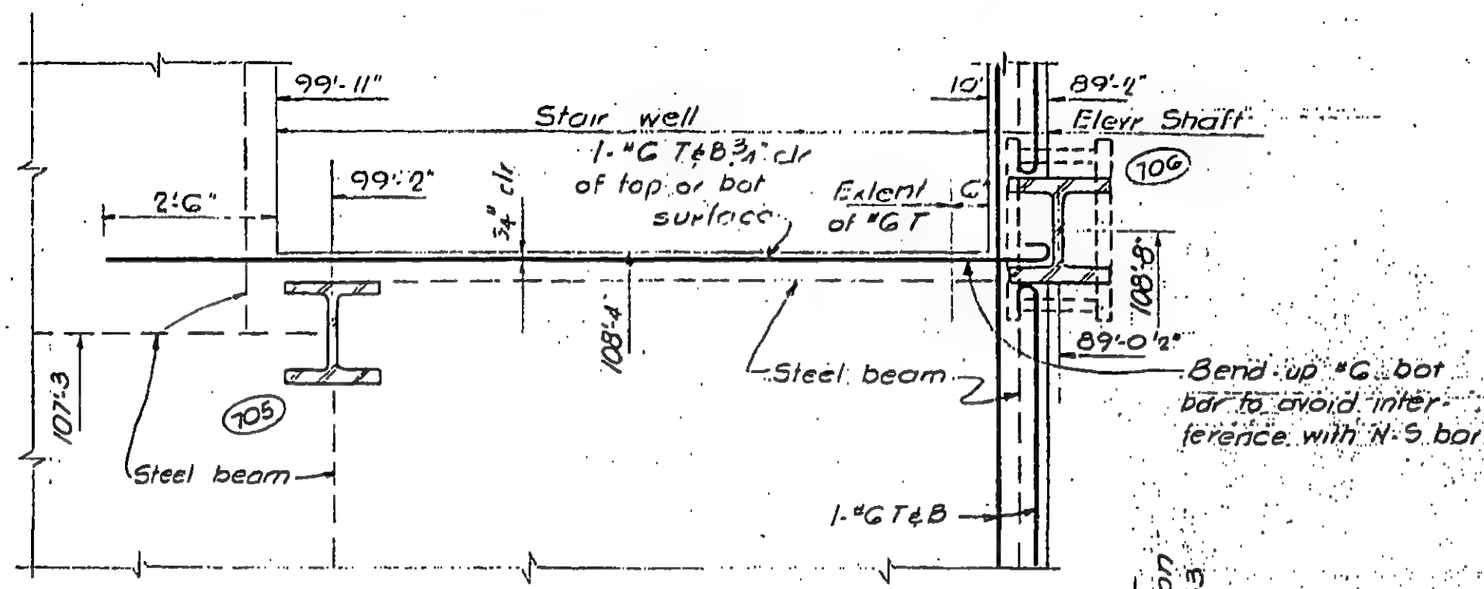
REVIEWED

8.AB3-SC.2

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON — Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE REINF. DETAIL AT OPENING BETWEEN COLS. 705 & 706 | DATE 3-1-68

REVISIONS
1-17-69



Floor 49 shown. Floors (9)-25, 44-62 similar

For continuation
See 8-AB3-53

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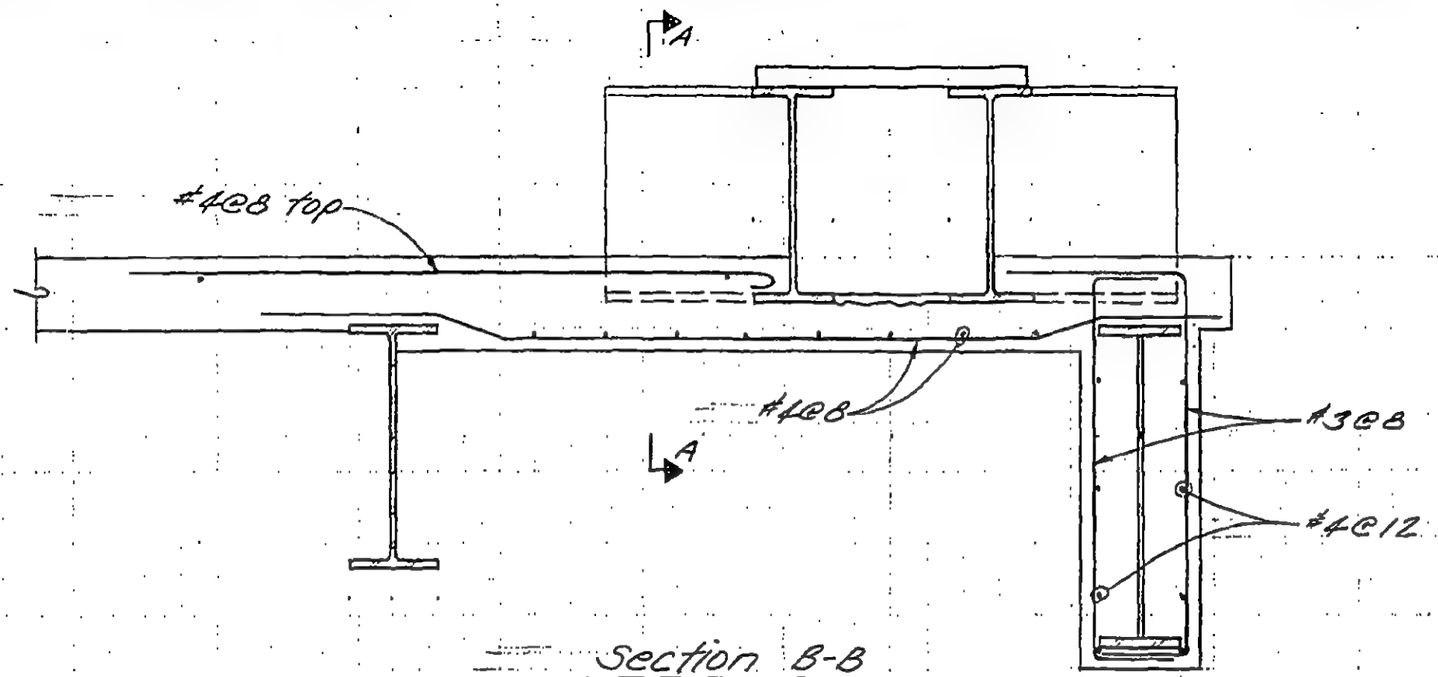
8-AB3-57

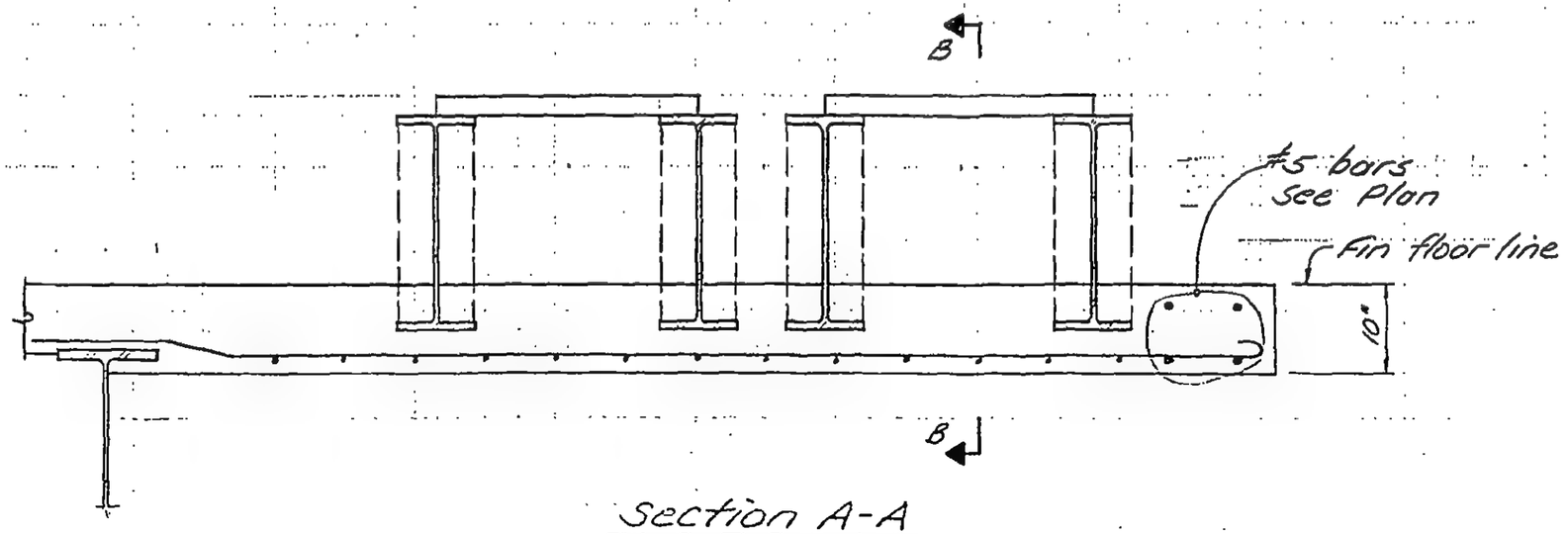
SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

PROJECT: THE WORLD TRADE CENTER | TITLE: SECTIONS - FLOOR 43 | DATE: 10/24/69

REVISIONS



Section B-B



Section A-A

LICENSED PROFESSIONAL ENGINEER
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No. 34360
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DESIGNED

DRAWN

REVIEWED

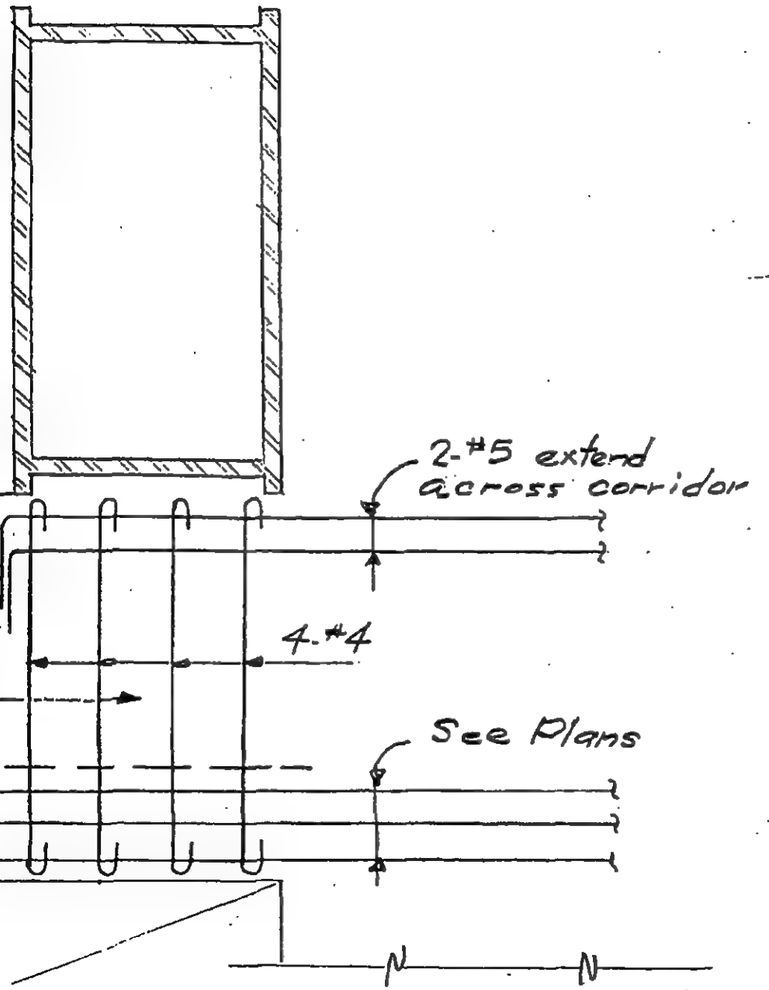
B-AB3-58

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

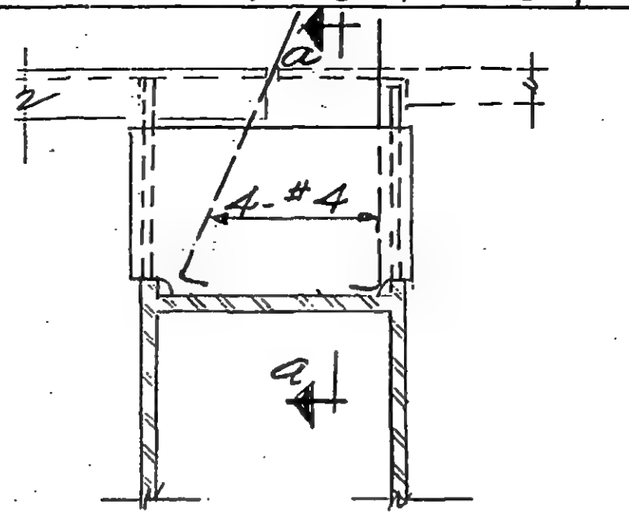
PROJECT THE WORLD TRADE CENTER | TITLE DETAILS AT COLUMNS 504-505 | DATE 11-3-69

REVISIONS

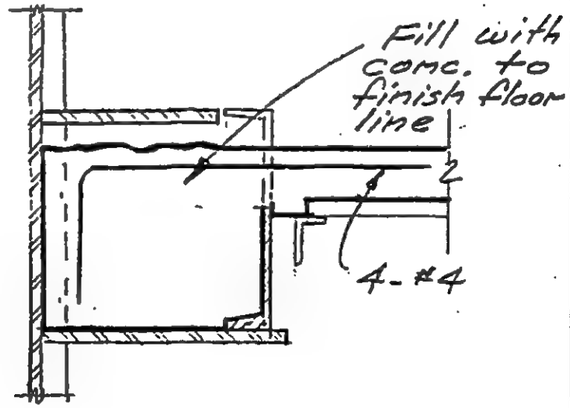
Note: See Concrete Plans for floors where these details apply.



Detail 59A



Plan



Section a-a

Detail 59B

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DESIGNED

DRAWN

REVIEWED W Brewer

8-AB3-59

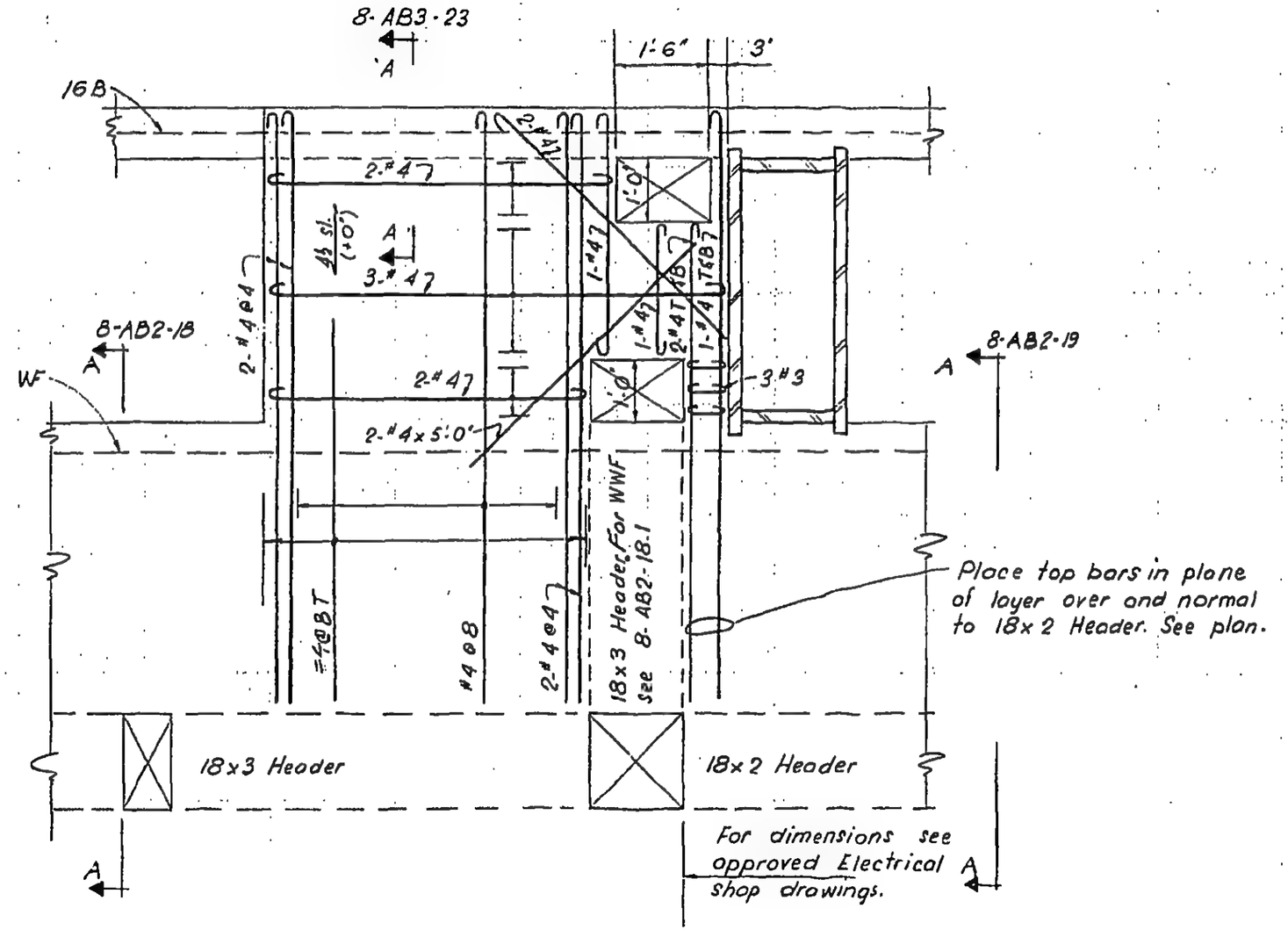
SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

PROJECT: THE WORLD TRADE CENTER

TITLE: TELEPHONE CLOSET AT COLS. 502, 506, 1003 & 1006 AT EL (40'-0")

DATE: 3/13/70

REVISIONS



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DESIGNED: T. O'Neill

DRAWN: T. Terrelonge

REVIEWED:

8-AB3-60

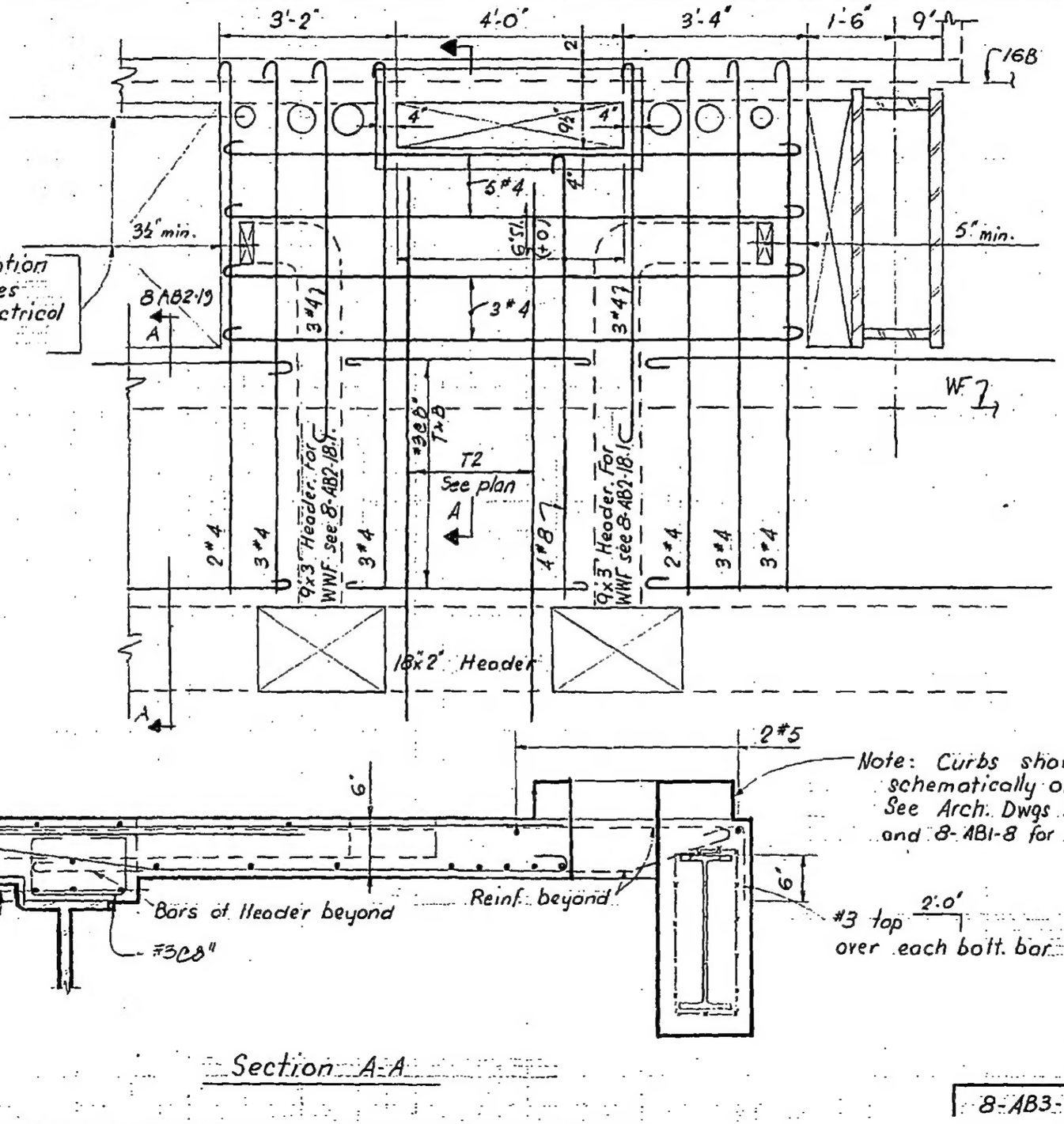
SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

PROJECT: THE WORLD TRADE CENTER

TITLE: ELECTRICAL CLOSET AT COLS. 505 & 1004 AT EL(+0')

DATE: 3/19/70

REVISIONS



Section A-A

8-AB3-61

LICENSED PROFESSIONAL ENGINEER — LESLIE E. ROBERTSON — No. 34360 — UNIVERSITY OF THE STATE OF NEW YORK

DESIGNED: T O'Neill

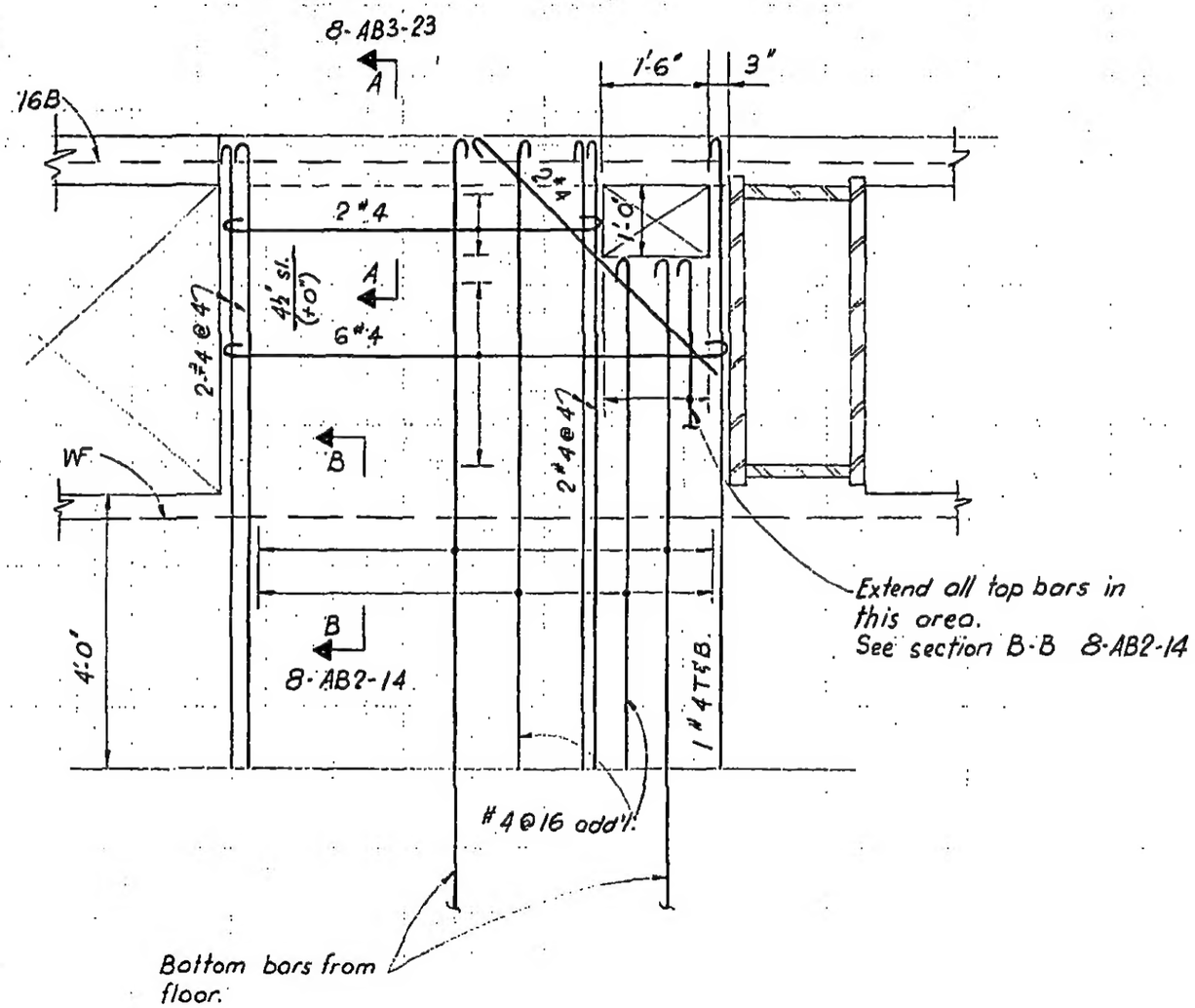
DRAWN: T. Terrelonge

REVIEWED:

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

PROJECT: THE WORLD TRADE CENTER. | TITLE: TELEPHONE CLOSET AT COLS. 502, 506, 1003 & 1006 AT EL (+0') | DATE: 3-19-70

REVISIONS



LICENSED PROFESSIONAL ENGINEER — LESLIE E. ROBERTSON — No. 34360 — UNIVERSITY OF THE STATE OF NEW YORK

DESIGNED: T O'Neill

DRAWN: T. Terrelonge

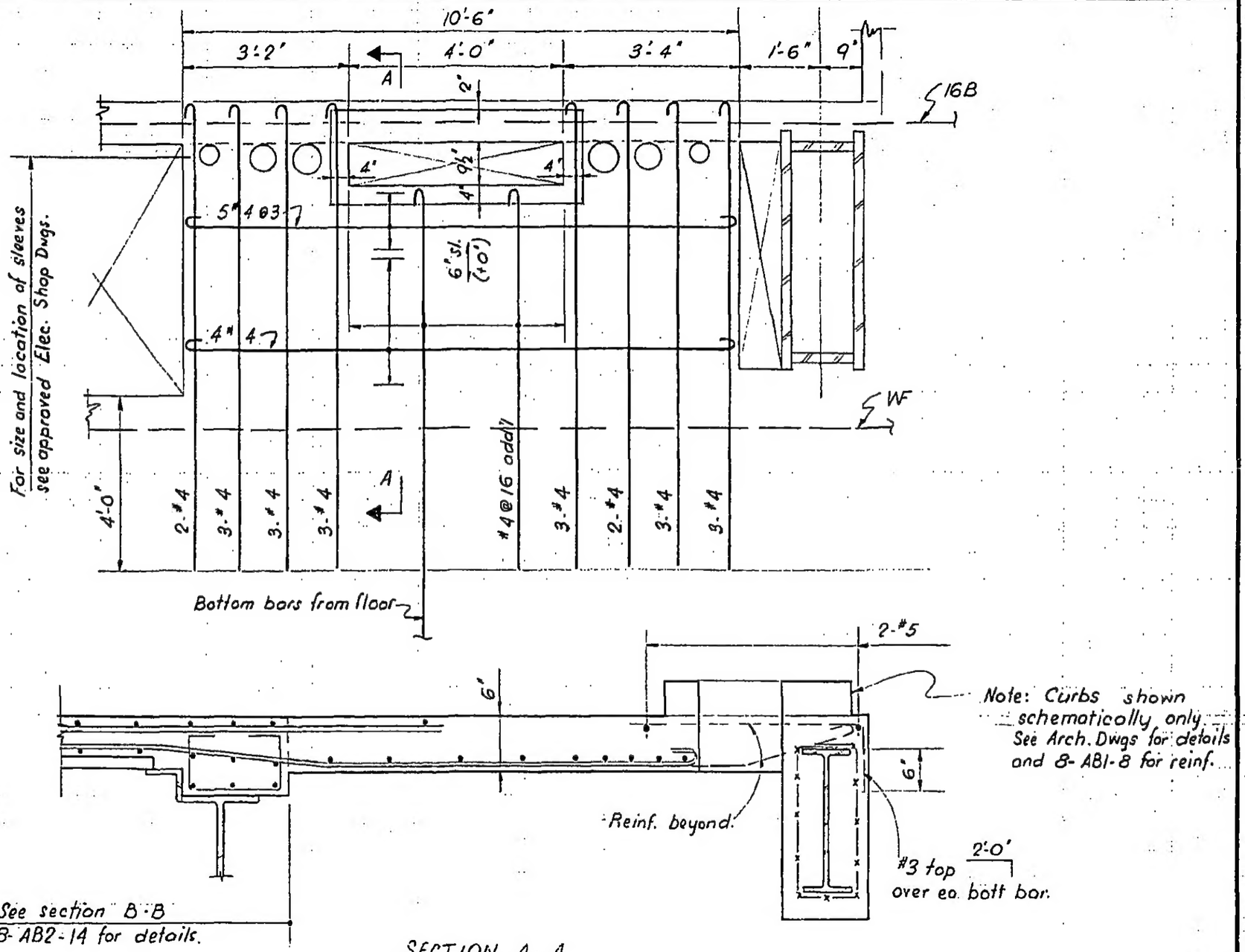
REVIEWED:

8-AB3-62

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON — Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE ELECTRICAL CLOSET AT COLUMN 505 & 100A AT EL.(+10') | DATE 3-19-70

REVISIONS



SECTION A-A

LICENSED PROFESSIONAL ENGINEER
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No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

DESIGNED T. O'Neill
DRAWN T. Terrelonge
REVIEWED

8-AB3-63

-1063-LERA